DISARMAMENT

A periodic review by the United Nations

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The African Nuclear-Weapon-Free Zone Treaty

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The African Nuclear-Weapon-Free Zone Treaty

The Pelindaba Text and its provisions

Olu Adeniji

At its sixty-second ordinary session in Addis Ababa, held from 21 to 23 June 1995, the Council of Ministers of the Organization of African Unity (OAU) adopted resolution CM/Res. 1592 (LXII)/Rev. 1 on the implementation of the Treaty declaring Africa a nuclear-weapon-free zone. In that resolution, the Council took note of and endorsed the draft Pelindaba Treaty on the African nuclear-weapon-free zone, which had been submitted to it by the Group of Experts charged with drafting it and had been amended by the Council after discussion. The Council then decided to submit the amended draft text to the OAU heads of State and Government at their thirty-first ordinary session, held from 26 to 28 June. The heads of State, in turn, approved the Council's resolution,

Olu Adeniji is a retired Nigerian Ambassador and Director-General of the Ministry of Foreign Affairs. He served as Chairman of the UN/OAU Group of Experts that drafted the African Nuclear-Weapon-Free Zone Treaty.

The main body of the Treaty, the preamble, articles 1-22, and the map are reproduced in this issue in the section "Documentation Relating to Disarmament and International Security". The complete text, including annexes and protocols, is contained in document A/50/426.

thereby endorsing the draft text. In so doing they also approved the offer of the Egyptian Government to host the signing ceremony for the Treaty. It can be said, therefore, that the long journey to a legally binding instrument on an African nuclear-weapon-free zone, which began in 1964 with the Declaration on the Denuclearization of Africa, has virtually come to an end. With the approval of the draft by the OAU summit, what is left is the formal aspect of signature and ratification, to be followed by implementation once the Treaty comes into force.

Background

The first Summit Conference of the Organization of African Unity, held in Cairo in July 1964, adopted a concerted African reaction to French atomic testing in the Sahara, an event that had drawn very strong protests from some African countries. In its Declaration on the Denuclearization of Africa, the African heads of State called upon all States to respect the continent of Africa as a nuclear-weapon-free zone. The heads of State pledged to undertake a legally binding commitment for the nuclear-weapon-free status of the continent. The delay in implementing the Cairo Declaration was due to a number of factors, chief among which were the unbridled global nuclear-arms race and the suspicion of African States that South Africa under the apartheid Government was developing a nuclear-weapon capability. Given this perception of threat to the security of African States, it became difficult to obtain a consensus on a legally binding instrument for an African nuclear-weapon-free zone. Indeed, rather than proceed along the lines adopted by the Latin Americans in 1967 in the Treaty of Tlatelolco, several groups and individuals in Africa argued that some African countries should develop nuclear-weapon capabilities to serve as a counterpoise to the capability being developed by South Africa. In those circumstances, the focus

of the annual resolution submitted by African countries to the United Nations General Assembly on the subject was South Africa's nuclear-weapon capability.

The dramatic changes that occurred in international relations in the second half of the 1980s had a salutary effect on the implementation of the Declaration on the Denuclearization of Africa. Of particular relevance in this respect was the commitment of the Government of South Africa to dismantle the apartheid system and its decision to adhere to the Nuclear Non-Proliferation Treaty.[1] In the light of these developments, a Group of Experts, convened in Addis Ababa in May 1991 to consider the elements for the preparation of a treaty on an African nuclear-weapon-free zone, concluded unanimously that the time was auspicious to commence drafting.[2] At its second meeting, held in Lomé in 1992, the Group of Experts completed the examination of all the elements that should form part of the treaty and recommended that work should commence on drafting. That task was begun in April 1993 in Harare by a Group of Experts jointly designated by the OAU and the United Nations. At its fourth drafting session, in Johannesburg, in May/June 1995, the Group completed its work on the draft Pelindaba Treaty, which it submitted to the OAU Council of Ministers.

An important consideration in the elements for drafting a nuclear-weapon-free-zone treaty for Africa was the ambiguous nuclear position of South Africa. Although suspected of having a nuclear-weapon capability, it had not declared itself to be nuclear-weapon capable, and there was no consensus on its status. That situation changed about two weeks before the expert group commenced the drafting of the treaty. In March 1993, President de Klerk informed the South African Parliament that South Africa not only had developed a nuclear-weapon capability, but also had produced six nuclear weapons. That confirmation did imply that the treaty to be drafted would vary significantly from the existing nuclear-

free-zone Treaties, since, unlike the situation in the other zones, there existed in Africa a nuclear-weapon-capable State. The treaty had to be formulated to ensure not only that no zonal State would, in the future, develop nuclear weapons, but also that those already developed by South Africa would be totally destroyed, together with the facilities for their production. Another important element that would distinguish the African treaty concerned the question of peaceful uses of nuclear energy. African States were determined to ensure that, in addition to its non-proliferation aspects, the treaty would fit in with Africa's multifaceted effort to strengthen its security, stability and development. Thus it should not only provide a legally binding renunciation of a nuclear-arms race, but also create an enabling environment of mutual trust and cooperation in the peaceful uses of nuclear energy and nuclear technology for economic and social development.

Treaty provisions

It should be pointed out at the outset that though the African Nuclear-Weapon-Free Zone Treaty seeks to strike a balance between non-proliferation and the encouragement of cooperation in the peaceful uses of nuclear energy, both aspects are governed by strict safeguards provisions. The non-proliferation provisions are all-embracing, covering, in articles 3, 4, 5, and 6, aspects of renunciation of nuclear explosive devices, prevention of stationing, prohibition of testing and, in the case of a party that had developed nuclear-weapon capability before entry into force, declaration, dismantling and destruction. Indeed, in order to avoid any loophole, and taking into account the evolution of international opinion on the issue of peaceful nuclear explosions, the non-proliferation provisions cover not just nuclear weapons, but the wider term "nuclear explosive

devices". In article 1, dealing with the definition and usage of terms, "nuclear explosive device" is defined as any nuclear weapon or other explosive device capable of releasing nuclear energy, irrespective of the purpose for which it could be used.

The renunciation of nuclear explosive devices (article 3) is all-encompassing, covering every aspect from research (a unique feature that does not occur in any other nuclear-weapon-free zone Treaty), to development, manufacture, stockpiling or control. Thus each party commits itself in this article not to undertake those activities by itself, nor to seek nor receive any assistance, nor to assist nor encourage others in undertaking them.

Article 4, which prevents the stationing of nuclear explosive devices in the territories of parties, gave rise to exhaustive discussions. While there was no controversy over requiring each party to undertake to prohibit in its territory the stationing of any nuclear explosive device, the issue of whether such a party could allow foreign ships or aircraft that might be suspected of carrying nuclear explosive devices to visit its ports or airfields generated considerable debate among the experts. Such permission in the exercise of a party's sovereign rights forms part of the Treaty of Rarotonga. There was insistence, therefore, on the part of some nuclear-weapon States, that such permission should also feature in the African Treaty. Article 4, paragraph 2, grants permission to each party to decide for itself whether to allow such visits, but the exercise of the right should be without prejudice to the purposes and objectives of the Treaty.

Article 5 prohibits the testing of any nuclear explosive device by a State party or in the territory of a State party. It also forbids a State party from assisting or encouraging the testing of any nuclear explosive device by any State anywhere. If this article is read in conjunction with the definition of nuclear explosive device in article 1, it becomes clear that the

so-called peaceful nuclear explosion is prohibited. This is in consonance with the determination of African States not to leave any loophole for the testing of a nuclear weapon under the guise of a peaceful nuclear explosion.

The provisions in article 6 on declaration, dismantling, destruction or conversion of nuclear explosive devices are unique to the African Nuclear-Weapon-Free Zone Treaty. Africa had to take into account the statement by President de Klerk that the country had in fact produced some nuclear weapons. Though the President indicated that the weapons programme had been discontinued, and though the International Atomic Energy Agency (IAEA) certified that South Africa had indeed destroyed the weapons, parties have to be assured by appropriate provisions in the Treaty. Thus the article requires each party to declare any capability for the manufacture of nuclear explosive devices, to dismantle and destroy any nuclear explosive device that it has manufactured prior to the coming into force of the Treaty, and to destroy the facilities for production. Each party is also obliged to permit IAEA and the African Commission on Nuclear Energy (established under the terms of article 12 of the Treaty) to verify the processes of dismantling and destruction of nuclear explosive devices as well as the destruction and conversion of the facilities for their production.

The prevention of the dumping of radioactive wastes in Africa is seen as an important element in the construction of the African nuclear-weapon-free zone. In the aftermath of the outrage provoked by the dumping of hazardous wastes in some African countries, the Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa was concluded. It was considered appropriate, therefore, that parties to the African nuclear-weapon-free zone Treaty (article 7) should undertake to effectively implement or at least use as guidelines the measures contained in the

Bamako Convention, in so far as it pertains to radioactive wastes.

Peaceful uses of nuclear technology

In accordance with Africa's desire to take advantage of the peaceful uses of nuclear energy, article 8 is devoted to that end. It should be pointed out that the title of the Treaty, "African Nuclear-Weapon-Free Zone Treaty" was preferred over the South Pacific example, namely, the South Pacific Nuclear Free Zone Treaty. This was to underscore the fact that the intention was to prevent the introduction of nuclear weapons into the zone, but not to forbid nuclear technology as such. Article 8, paragraph 1, therefore makes clear that nothing in the Treaty should be interpreted as to prevent the use of nuclear science and technology for peaceful purposes. To that end, parties undertake in article 8, paragraph 2, to promote individually and collectively the use of nuclear science and technology for economic and social development. They also undertake to establish and strengthen mechanisms for cooperation at the bilateral, subregional and regional levels. Article 8, paragraph 3, encourages parties to make use of the programme of assistance available in IAEA.

Verification of peaceful uses

In spite of its emphasis on promoting the peaceful uses of nuclear energy, however, the Treaty ensures that peaceful nuclear activities are to be conducted under strict safeguards arrangements. Each party therefore undertakes in article 9 to conclude a comprehensive safeguards agreement with IAEA. Furthermore, each party undertakes not to provide source or special fissionable material or equipment to any non-nuclear-weapon State unless subject to a comprehensive safeguards agreement concluded with IAEA. This is to ensure that even in their commercial activities in the nuclear field,

parties to the African Nuclear-Weapon-Free Zone Treaty are conscious of their responsibilities to contribute to the strengthening of the global non-proliferation regime.

To strengthen confidence in the peaceful uses of nuclear technology, provision is made in article 10 for the maintenance by parties of the highest standards of security and effective physical protection of nuclear materials, equipment and facilities to prevent theft or unauthorized use and handling.

Article 11 on the prohibition of armed attack on nuclear installations within the zone is unique to the African Nuclear-Weapon-Free Zone Treaty. It is intended to reassure parties that other parties will neither launch such an attack nor assist others in doing so.

Mechanism for compliance

The Treaty establishes the African Commission on Nuclear Energy for the purpose of ensuring compliance with its provisions. Elected by the Conference of Parties, the Commission shall be responsible for the operation of the Treaty. It shall receive and collate the reports that parties are obliged to submit annually on their nuclear activities; it shall implement the complaints and dispute settlements procedure as elaborated in annex IV of the Treaty; it shall review the application of IAEA safeguards to peaceful nuclear activities, as elaborated in annex II; and it shall promote and encourage subregional, regional, and international cooperation for the peaceful uses of nuclear technology within the zone.

The highest body created by the Treaty is the Conference of Parties. However, its functions are mainly to elect members of the Commission, to adopt the Commission's budget, and, occasionally, to convene in extraordinary session to receive and deliberate on the Commission's findings regarding complaints against a party.

Final provisions

Perhaps of the greatest interest among the final provisions of the Treaty is article 18 on signature, ratification and entry into force. It is envisaged that the Treaty will come into force on the deposit of the twenty-eighth instrument of ratification, that is, on the deposit of the instrument of ratification of a simple majority of members of OAU.

Zone of application

Annex 1 of the Treaty contains the map indicating the zone of application of the Treaty, to which reference is made in article 2. The negotiation of both the wording of article 2 and of the nature of the map in annex 1 was a very laborious task because of the many disputed territories within the zone. The extra-zonal Powers that are in disagreement with African States also happen, in the most important cases, to be nuclear-weapon States whose support for the Protocols to the Treaty is crucial for its effectiveness. The expert group that drafted the Treaty held consultations with the extra-zonal States concerned and was able in most cases to arrive at an understanding. However, one major issue remained unresolved within the formula agreed upon.

In the light of the special peculiarities of the African zone, it was not considered feasible to describe the zone in longitudinal and latitudinal terms. Rather, the illustrative map in annex I shows all the States which, by the decisions of OAU, appertain to Africa, with the understanding that inclusion in the map is without prejudice to the issue of sovereignty. An exception to the general understanding relates to the Chagos Archipelago, which, in the view of the United Kingdom, should not be reflected as being part of the zone. For Africa, however, the Chagos Archipelago is part of the territory of Mauritius, whose claim has been endorsed by OAU.

Protocols

The Treaty has three Protocols. Protocol I deals with security assurances, whereby the nuclear-weapon States undertake not to use or threaten to use nuclear weapons against any party to the Treaty or against any territory within the zone. Protocol II, addressed, like Protocol I, to the nuclear-weapon States, prohibits them from testing or assisting in the testing of nuclear explosive devices anywhere within the zone. Protocol III, addressed to extra-zonal States with territories in the zone, calls upon them to apply the provisions of the Treaty to such territories.

Significance of the Treaty for African security and cooperation

From the early years of their emergence into independence in the 1960s, African States have perceived nuclear weapons as one of the major security threats to the region. At first, it was French nuclear testing in the Sahara desert that aroused African consciousness of the nuclear issue. So strong was the feeling against the tests that not only was the issue raised in the United Nations, but unilateral action against France—including a break of diplomatic relations—was taken by some States. The formation of OAU in 1963 gave the opportunity for a Pan African joint response. This took the form of the Declaration on the Denuclearization of Africa, adopted by the OAU summit in Cairo in 1964. Though intended primarily to prevent outside Powers from introducing nuclear weapons in any form into Africa, that Declaration also contained an undertaking by African States to avert a nuclear-arms race among themselves and therefore to avert the danger that such a race would pose to continental security. Later on, the development of a South African nuclear programme, which was widely suspected of being aimed at a nuclear-weapon capability in defence of the universally

condemned policy of apartheid, posed a major challenge to continental security. Though many in the continent advocated the conclusion of the instrument envisaged in the 1964 Declaration as a response to the South African challenge, others believed that such a course would further endanger Africa since there could be no guarantee that South Africa would become a party to such an agreement. Besides, it could not be presumed that the nuclear-weapon States that should be the guarantors of the security of African States against nuclear attack by South Africa would do so. Thus, rather than undertake the elaboration of a nuclear-weapon-free zone treaty, Africa focused on calling the attention of the international community to the danger to African security posed by the South African nuclear programme. At the same time, many in Africa advocated the development of similar programmes by at least a few African States that were considered to be in a position to do so. Obviously, the resulting nuclear-arms race would not have enhanced African security.

The 1995 African nuclear-weapon-free zone Treaty was the first major cooperative undertaking between post-apartheid South Africa and the rest of the continent. South Africa began to participate in its elaboration in 1993, and it is significant that the final draft was completed in Johannesburg. Thus the Treaty has removed a major security threat in Africa by introducing transparency and confidence among the States in the region. The promotion of peaceful uses of nuclear science and technology, envisaged through the implementation of the Treaty, will further enhance cooperation among African States. Significantly, South Africa, which is the most advanced State in the region in nuclear technology, has not only pledged its total commitment to regional cooperation in this field, but has offered to host the headquarters of the African Commission for Nuclear Energy. It is believed that once the Treaty enters into force, the Commission will begin to fulfil one of its mandates, namely, to promote inter-African

cooperation in the peaceful uses of nuclear technology for economic and social development.

The African nuclear-weapon-free zone and the global non-proliferation regime

The establishment of nuclear-weapon-free zones is an important element in an effective global non-proliferation regime. The creation of such zones is to be encouraged with a view to the realization, together with nuclear disarmament, of a nuclear-weapon-free world. The African nuclear-weapon-free zone, like the two other zones already created in Latin America and the Caribbean and in the South Pacific, can only be fully effective if the nuclear-weapon States are committed to fulfilling the obligations expected of them in the relevant Protocols to the Treaty. Their willingness to give security assurances and to refrain from testing nuclear weapons in the zone is indispensable for the viability of each of the zones. Even before the conclusion of a comprehensive nuclear-test-ban treaty, nuclear-weapon States should exercise self-restraint and desist from violating the commitment of regional States to make their region nuclear-weapon-free.

Notes

1 South Africa acceded to the Non-Proliferation Treaty on 10 July 1991.

2 The group of experts began its work pursuant to General Assembly resolution 45/56 A of 4 December 1990.

History of the Efforts to Establish an African Nuclear-Weapon-Free Zone

Sola Ogunbanwo

The African Nuclear-Weapon-Free Zone (NWFZ) embraces an entire inhabited continent, comprising 53 sovereign States. It will be the third such zone to be established in a densely populated area of the world. The two existing zones covering populated areas encompass Latin America and the Caribbean (1967 Treaty of Tlatelolco) and the South Pacific (1986 Treaty of Rarotonga).

The formal title of the Treaty establishing the African NWFZ, as described in its statute, is the "African Nuclear-Weapon-Free Zone Treaty". The African States chose this title to underscore the fact that it is a treaty for the military denuclearization of Africa. This allows the African States to benefit from the application of nuclear technology for peaceful purposes of economic and social development. The Treaty will be referred to as the "Treaty of Pelindaba", using the name of the area near Pretoria, which is the headquarters of

Sola Ogunbanwo, who is with the United Nations Centre for Disarmament Affairs, is Chief Expert Adviser on the African Nuclear-Weapon-Free Zone.

The main body of the Treaty, the preamble, articles 1–22, and the map are reproduced in this issue in the section "Documentation Relating to Disarmament and International Security". The complete text, including annexes and protocols, is contained in document A/50/426.

South Africa's Atomic Energy Corporation, and where the joint United Nations/Organization of African Unity (OAU) Group of Experts finalized the draft of the Treaty on 2 June 1995. According to Ambassador J. S. Selebi, South Africa's Permanent Representative to the United Nations Office at Geneva, "Pelindaba", roughly translated, means "the discussion has been completed".

Declaration on the Denuclearization of Africa

The discussions that ended in Pelindaba actually began in 1960 when, confronted with French nuclear testing in the Sahara, several African States launched an effort to denuclearize Africa. That year marked the true beginning of the genesis of the proposal to establish an African NWFZ. One year later, at the initiative of African States, the first resolution of the United Nations General Assembly on the establishment of a nuclear-weapon-free zone was approved under resolution 1652 (XVI) of 24 November 1961, entitled "Consideration of Africa as a denuclearized zone". In that resolution, the Assembly called on Member States to refrain from carrying out any nuclear tests in Africa, and from using the continent to test, store, or transport nuclear weapons.

Nearly three years later, the first African regional document, the direct forerunner of the Treaty of Pelindaba, the "Declaration on the Denuclearization of Africa", was adopted by the OAU in July 1964.[1] By that Declaration, the participating African heads of State and Government solemnly declared that they were ready to undertake "through an international agreement to be concluded under United Nations auspices, not to manufacture or control atomic weapons", and requested the General Assembly to take "the necessary measures to convene an international conference for the purpose of concluding an agreement to that effect".

The Assembly, however, did not convene an international conference as requested by the OAU Declaration. Nevertheless, in resolution 2033 (XX) of 3 December 1965, it endorsed the Declaration and expressed the hope that African States themselves would initiate studies, and take the necessary measures through the OAU to implement it. In that same resolution, the Assembly also requested the United Nations Secretary-General to extend to the OAU the facilities and assistance that it might require to achieve the aims of the resolution. The African States, for their part, did not plan the strategy that would have been necessary to capitalize on the historic OAU Declaration and on resolution 2033 (XX). Annually from 1974 until 1990, the Assembly continued to adopt resolutions (sponsored by the African States) whose focus shifted from concluding a treaty on an African NWFZ to matters considered to be obstacles to its achievement.

Those obstacles related mainly to different aspects of the policies of the Government of South Africa:

—South Africa refused to sign the Nuclear Non-Proliferation Treaty (NPT) and conclude adequate safeguards agreement with the International Atomic Energy Agency (IAEA).

—Regional and international anxieties were mounting about South Africa's growing nuclear weapons development and capability. That, in fact, prompted the Assembly to adopt resolution 34/76 B of 11 December 1979, which mandated a Group of Experts from France, Nigeria, the Philippines, the Soviet Union, Sweden, and Venezuela, to prepare a study entitled "South Africa's plan and capability in the nuclear field".[2] Another study, entitled "South Africa's nuclear-tipped ballistic missile capability", was released by the United Nations in 1990, on the basis of Assembly resolution 44/113 B of 15 December 1989.[3] Both United Nations studies provided a comprehensive analysis of the

capacity of South Africa in the nuclear and ballistic missile fields.

—Two reported incidents heightened African States' concerns about South Africa's nuclear intentions. The first incident was disclosed by the former Soviet Union through the discovery of a nuclear-weapons underground test site in the Kalahari Desert in 1977. The second incident involved an explosion thought to be a South African nuclear detonation detected by an American Vela satellite. Investigations of those two reported incidents remained inconclusive.

—South Africa continued its military incursions into territories of the front-line and neighbouring States.

—South Africa continued its apartheid policies in the face of universal condemnation.

As a result, no preparatory steps or consultations among the States of the region for drawing up a draft treaty on the denuclearization of Africa were carried out. That was in sharp contrast to the steps taken by the Latin American and Caribbean States in creating the Treaty of Tlatelolco. The African NWFZ and the Latin American NWFZ initiatives originated almost at the same time (the idea for the Latin American zone was stimulated in 1962 by the Cuban missile crisis). They both followed parallel courses until 1965. The Latin American initiative gained a considerable lead after that, owing to the decision of the Latin American States in November 1964 to set up an ad hoc body—the Preparatory Commission for the Denuclearization of Latin America—with the exclusive task of drawing up the required draft treaty. The Commission finished its work in two years and the Treaty of Tlatelolco was opened for signature in 1967. In the African context, no concrete steps were taken until 1990, when, as a result of the dramatic changes that took place in the international and regional scenes, it was felt that the time was ripe for African States to pursue in a concrete manner the denuclearization of their continent.

The first significant change was the political confidence built in the nuclear field by South Africa's accession to the NPT, its quick acceptance of IAEA safeguards, the disclosure by former President de Klerk of the existence and destruction of six nuclear explosive devices, and the subsequent verification by IAEA that they no longer existed. Those concrete actions taken in the nuclear field by South Africa meant that a vital precondition for the military denuclearization of Africa had been fulfilled. Other significant changes related to Africa's own "Peace Process", including South Africa's successful peace process with the front-line and neighbouring States, the improved political situation in South Africa through the abolition of the apartheid system and the holding of democratic elections leading to the installation of the South African Government of National Unity. Those developments greatly changed the threat perception of the African States and their general attitude towards the establishment of an African NWFZ.

Establishment of the Group of Experts

In 1990, the African States at the United Nations in New York met in a strategy session on how to transform the OAU 1964 Declaration into treaty format. Following that, a draft resolution sponsored by the African States was approved by the General Assembly as resolution 45/56 A on 4 December 1990. That resolution adopted a measure, which was later to prove decisive for the success of the African NWFZ idea—the creation of a group of experts specifically instructed "to examine the modalities and elements for the preparation and implementation of a convention or treaty on the denuclearization of Africa". The mandate of the group was later expanded in 1992 (resolution 47/76 of 15 December 1992) to include "drawing up a draft treaty or convention on the denuclearization of Africa".

As mandated, a Group of Experts was constituted in 1991, composed of experts from the various subregions of Africa, the OAU, the United Nations, and IAEA. Representatives of the Treaty of Rarotonga and the Treaty of Tlatelolco were invited to participate as observers in the work of the Group so that Africa could benefit from the experience gained by the existing nuclear-weapon-free zones. Representatives of the five nuclear-weapon States and Spain and Portugal were invited to special meetings of the Group. The special meetings provided an opportunity to ascertain the views of extra-regional States regarding the Protocols to the Treaty of Pelindaba, which are addressed to them.

The Group of Experts held a total of six meetings between 1991 and 1995, the last of which took place five years after its creation, in Johannesburg/Pelindaba, from 29 May to 2 June 1995. The Pelindaba text of the African NWFZ Treaty, as adopted by the Group of Experts, was submitted to the OAU Council of Ministers at its sixty-second ordinary session, held at Addis Ababa from 21 to 23 June 1995. After considering the Pelindaba text, the OAU Council of Ministers made some amendments and thereafter adopted resolution OAU/CM/RES 1592 (LXII)/Rev. 1. The Pelindaba text, as amended, was then approved by the thirty-first ordinary session of the OAU Assembly of Heads of State. The Treaty will be opened for signature in Cairo in February 1996. The Treaty will establish the African Commission on Nuclear Energy—AFCONE—to supervise the implementation of the Treaty, with headquarters in South Africa.

Looking back on the work of the experts who prepared the Treaty, it can be said that they came to the negotiating sessions well-prepared to discuss the issues and formulate the text of the long-awaited Treaty of Pelindaba. The extensive exchange of ideas and information during the sessions have been characterized by maximum openness and an atmosphere of cooperation. Perhaps the most striking

impression during the five years of negotiations was the sense of change. There was an acceptance that perceptions from the past should be abandoned, both on regional and global levels, and that the new and challenging task for Africa was to try to deal constructively and cooperatively with a new environment in the post–cold war era.

Disarmament and development benefits of the African NWFZ

Essentially, the African NWFZ Treaty will fulfil the function of preventing a nuclear-arms race on the continent; it will prevent African and extraregional States from introducing nuclear explosive devices into Africa; it will prevent the danger of atomic radiation. In addition to its non-proliferation, disarmament, verification, and environmental protection functions, the Treaty will promote African cooperation in the various uses of nuclear technology for economic and social development. Thus, the Treaty will represent an important contribution to a holistic approach to African security.

The Treaty of Pelindaba is an African success story even if it has taken 31 years to give birth to it. The Treaty represents some of the best news coming out of an Africa that continues to suffer its share of the tragic and destructive effects of conflict. Undoubtedly, the realization of an African NWFZ will be a most welcome way to commemorate fifty years of the United Nations.

By drafting the Pelindaba Treaty under "United Nations auspices", the OAU was in fact satisfying the spirit of an element contained in the 1964 OAU Declaration. The preparation of the Treaty has shown the crucial and vital role that the United Nations can play, such as in the efficient organization of the six meetings of the Group of Experts (in Addis Adaba, Lomé, Harare, Windhoek and Johannesburg/ Pelindaba), in providing expert advice to the Group in the course of drafting the Treaty, and in encouraging and attaining

the desired goal of non-proliferation through a multitude of General Assembly resolutions. In addition, all six meetings of the Group of Experts have been financed through the regular budget of the United Nations. The United Nations Member States should be congratulated for strongly supporting such a profitable investment in regional peace and security. The ability of the United Nations to extend assistance if requested by other regions or subregions in similar circumstances has been amply demonstrated. The preparation of the Treaty has also highlighted the long-standing and mutually-beneficial cooperation between the United Nations, the OAU and IAEA in promoting the goals of non-proliferation.

The political importance that the international community attaches to the African NWFZ was manifest during the General Assembly's fiftieth session. In resolution 50/78 of 12 December 1995, the Assembly welcomed the Treaty of Pelindaba "with special satisfaction" and declared that it considered it "an event of historic significance in the efforts to prevent the proliferation of nuclear weapons and to promote international peace and security". Such political weight was also evident during the sessions of the 1995 NPT Review and Extension Conference, where a large number of States made comments supporting the Treaty.

Notwithstanding the different characteristics of each region, the African NWFZ can serve, in many respects, as an example rich in inspiration to other regions, including the Middle East. It can provide vital lessons for all States wishing to contribute to broadening the areas of the world from which nuclear weapons will be forever proscribed.

Notes

1 A/5975

2 A/35/402.

3 A/45/57 and Corr.1, annex.

Denuclearization: Enhancing African Regional Cooperation in Peaceful Nuclear Applications

Benson N. C. Agu

In the period marking the 50 years of the United Nations, and immediately following the indefinite extension of the Nuclear Non-Proliferation Treaty (NPT), a review of the issue of safeguards and peaceful uses of nuclear energy in Africa seems appropriate. Africa has neither recorded a Chernobyl-type nuclear accident, nor even a Goiania-type radiological incident as in Brazil; and no African country has been found in gross violation of its safeguards agreements. However, much scientific interest was generated by the unique discovery in the 1970s that a nuclear chain reaction had taken place naturally several milleniums ago at Okolo uranium deposit in Gabon. Further, a continent-wide outcry arose in 1987 at the rumour of radioactive waste dumping at Koko Port in Nigeria, which turned out to be toxic industrial waste. And Africa made international headline news in the area of nuclear energy on the accession of South Africa to the

Benson N. C. Agu was IAEA Visiting Professor of Nuclear Physics (1968–1971), an IAEA Safeguards Inspector (1972–1982) and Director of the Safeguards Operations Division (1982–1987). He was also a member of the Standing Advisory Group on Safeguards Implementation (SAGSI) at IAEA (1988–1993) and is a member of the IAEA action team of UNSCOM since 1991. He was a member of the Core Group of the Programme for the Promotion of Nuclear Non-Proliferation (PPNN) (1987–1990).

NPT, and the subsequent revelation of its former nuclear weapons programme. Now in 1995, with South Africa firmly back in the "family-fold" of African nations, and with the achievement of the long-awaited African Nuclear-Weapon-Free Zone Treaty, Africa can happily join in celebrating 50 years of the existence of the United Nations and 50 years since the dawn of the development of the peaceful uses of the atom.

Safeguards and peaceful uses

Fifty years of the atomic age and the world's experience of the various uses of nuclear energy have convinced most nations that safeguards and peaceful uses of nuclear energy must go hand in hand. The current large number of parties to the NPT (182) and its recent indefinite extension bear eloquent testimony to this conviction. As the primary purpose of safeguards is to limit the number of States that possess nuclear weapons, the present small number of five nuclear-weapon States (NWS) and the three that are presumed to be nuclear-weapon States indicate that the concept of international safeguards has worked well and is contributing to the quest by humanity for a safer world.

The need to associate safeguards with peaceful application of nuclear energy is based on the fact that the same technology required for peaceful uses of nuclear energy is closely coupled to that required for the production of nuclear weapons. Furthermore, the technologically advanced countries, which were the first to develop nuclear technology, could not continue indefinitely to deny this technology to other countries that also wished to benefit from its peaceful applications. It was therefore prudent to put in place some legal and institutional arrangements to ensure that any assistance, materials or facilities provided to other nations for the development and peaceful applications of nuclear energy were not diverted to the production of nuclear weapons.

Initially, this type of control was exercised through the bilateral agreements between the supplier and recipient States, and this mode of control continued until an international organization was specifically set up for that purpose.

The creation of the International Atomic Energy Agency (IAEA) in 1957 marked the first concrete step taken internationally to curb the spread of nuclear weapons by empowering the Agency to put in place an internationally administered safeguards system. Article II of the Statute of the Agency specified the task of IAEA as, "to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world. It shall ensure so far as it is able, that assistance provided by it or at its request or under its supervision or control is not used in such a way as to further any military purpose".

The scope of applicability of the safeguards foreseen in the IAEA Statute appeared limited, as several industrialized nations were in the position to develop and operate nuclear facilities without outside assistance, and so were not obliged to place their facilities under IAEA safeguards. By the time the IAEA safeguards system was established and operating, two more States (France and China) had become nuclear-weapon States, and many more States seemed poised to follow the path to nuclear weapons programmes. The negotiation and entry into force of the NPT by 1970 greatly increased the scope of applicability of international safeguards by IAEA. The NPT not only enabled many more States to accept safeguards on their peaceful nuclear activities, but also it meant that no nuclear material or facilities in any non-nuclear-weapon State party to the Treaty could legitimately be left outside the ambit of the IAEA safeguards. Furthermore, in the mid-1970s, when countries were investing heavily in adding nuclear power to their energy mix, and several States in Europe and Asia with large and sophisticated nuclear fuel cycles came under the comprehensive safeguards of the Agency, the coming into

force of the NPT greatly increased the safeguards implementation workload of IAEA.

IAEA safeguards in Africa

Unlike the experience in some other parts of the world, the application of IAEA safeguards in Africa has never been an issue of major concern to the world community. In fact, not until the recent accession of South Africa to the NPT in 1991 was there any excitement, albeit a pleasant one, with regard to safeguards implementation in Africa.

The dawn of the nuclear age found many African countries still under colonial rule. Of the few independent African States, only one (South Africa) was in the position, technically and financially, to make an early start (1948) in the development of nuclear energy, even though Africa's uranium (from Belgian Congo and South Africa) contributed significantly to the early development of nuclear energy in the western world.[1] Thus, when the French nuclear tests in the Sahara desert began in the early 1960s and rudely awakened Africa to the nuclear age, only the 250 Kw Triga Mark-I research reactor (now upgraded to 1 Mw) at the Louvanium University of Kinshasa was in operation in Africa. The South African 5 Mw (SAFARI-1) research reactor was only commissioned in 1965,[2] and the Egyptian 2 Mw (INSHAS) research reactor was about the same vintage.

Even today, only two other African countries (Libyan Arab Jamahiriya and Algeria) have acquired operating research reactors or any other nuclear facilities to which IAEA safeguards can be applied. Of these five African countries with research reactors, only South Africa has other advanced nuclear facilities, which include two power reactors at Koeberg and other facilities capable of handling the front-end of the nuclear fuel cycle (involving uranium conversion, fuel fabrication, uranium enrichment, etc.). Some of the larger

countries in Africa had at one time or another announced their intention to acquire nuclear reactors for research or for electric power, and some had even negotiated multi-million dollar contracts for turn-key projects. However, it appeared that subsequent political and economic upheavals in these countries, together with a lack of the necessary basic technological infrastructure and expertise, led to unrealistic plans that they could not implement.

When the NPT was negotiated in 1968, many countries in Africa were among the early signatories to the Treaty. Over the years other African countries acceded to the NPT, but most countries in southern Africa "held out" against accession as long as South Africa, whose nuclear capability was a major issue of concern to Africa, had not acceded to the NPT and submitted all its considerable nuclear activities to comprehensive IAEA safeguards. The situation changed dramatically with the welcome accession of South Africa to the NPT on 10 July 1991, and the early conclusion of the NPT full-scope safeguards with IAEA in a record time of only seven weeks, on 16 September 1991.[3] Since then all the "hold-out" States in southern Africa have acceded to the NPT, bringing the total of the African countries currently parties to the Treaty to 50. Of these, only 19 have also concluded the comprehensive safeguards agreements with IAEA as required by article III of the Treaty, and some of them took over 20 years after signing the NPT to fulfil this obligation.

Algeria was the last African State with significant nuclear development and activities (two research reactors) to accede to the NPT, on 12 January 1995. This happy event leaves only Angola and Djibouti, which have no known nuclear facilities or activities, as the remaining African States yet to become parties to the NPT. Thus with all nuclear facilities and activities in Africa under the NPT full-scope IAEA safeguards, there are now much better prospects for

closer regional and international cooperation in the field of peaceful uses of nuclear energy.

Safeguards in Africa would have remained a pretty colourless affair, compared with the events in Iraq and the Democratic People's Republic of Korea (DPRK), but for the exciting news from South Africa in March 1995, described below.

The world community was still reeling from the shock of the Persian Gulf War revelation that Iraq, a non-nuclear-weapon State party to the NPT and under IAEA safeguards, was developing nuclear weapons capability in clandestine unsafeguarded facilities, in parallel with its overt safeguarded nuclear programme, when the disturbing case of the DPRK assumed centre stage, both at IAEA and the United Nations. After acceding to the NPT in 1985, the DPRK delayed for five years the conclusion of the obligatory comprehensive NPT safeguards agreement with IAEA. Then the IAEA verification of the initial inventory declared by the DPRK revealed major inconsistencies that needed further investigations by IAEA to resolve. The refusal to allow these investigations and the special inspections foreseen in the NPT safeguards agreement set the DPRK on a collision course with IAEA. Even when the matter went to the Security Council, the threat by the DPRK to withdraw from the NPT took several months and bilateral interventions by the United States and some Asian countries to resolve.

In contrast to the above, South Africa's actions on acceding to the NPT in 1991 clearly stood out as exemplary. It took only seven weeks after its accession to conclude the required comprehensive NPT safeguards agreement with IAEA, a period far shorter than the allowed time of up to 18 months for this process. In view of the well-known history of the apartheid regime in South Africa, much interest was focused on IAEA's thorough verification of South Africa's

declared initial inventory. This involved lengthy reconciliations of the accounting and operating records in the sensitive enrichment facilities, which was carried out with maximum cooperation and transparency by the authorities. This gesture by South Africa, as well as the reassuring result of the verification, received widespread commendation from several member States of IAEA.

Then in March 1993, President F. W. de Klerk revealed that South Africa had operated a nuclear weapons programme and had actually produced six nuclear weapons and was working on the seventh one, when a decision was taken to terminate the programme and dismantle the nuclear devices before acceding to the NPT. According to the information from South Africa, the non-nuclear components of the devices were destroyed, and the highly-enriched uranium (HEU) components of the weapons were melted down and included in the declared initial inventory of South Africa that was subsequently verified by the IAEA safeguards inspectors.

This unsolicited revelation by South Africa caused widespread excitement, for South Africa was not obliged by any agreement to reveal its past nuclear activities. There were calls for IAEA to review its verification of South Africa's initial inventory to determine its correctness and completeness in view of this revelation. This incident prompted the sending of a high-powered team of IAEA inspectors, augmented by some nuclear weapons experts, to South Africa to carry out inspections at a number of facilities and locations connected with the abandoned former nuclear weapons programme. The team was able to confirm that the HEU declared in the initial inventory was consistent with the estimated output of the pilot enrichment plant (the Y-plant) operated by South Africa for several years since its first HEU output in 1978.[4] It is very encouraging to note that South Africa came through the test of accession to the NPT with

flying colours, and also set a very good example by its unstinted cooperation and transparency, which other nations could emulate in their dealings with IAEA in the matter of NPT safeguards implementation.

The non-proliferation regime and regional concerns in Africa

Denuclearization of Africa

When the French nuclear tests in the Sahara desert began in 1960 and gave rise to significant radioactive fallout in several neighbouring African countries,[5] the continent showed its concern by raising the issue of cessation of nuclear tests in Africa at the United Nations in 1961. With the formation of the Organization of African Unity (OAU) in 1963, the first Assembly of Heads of State and Government of the OAU in 1964 adopted the Declaration on the Denuclearization of Africa.[6] The Declaration called on all States not to test, manufacture or store nuclear weapons in the continent and announced Africa's readiness to undertake in an international treaty the obligation not to produce or acquire nuclear weapons. Thus a unilateral renunciation of the right to develop nuclear weapons was first undertaken by the African continent.[7] Brazil alone had proposed a denuclearized Latin America at the United Nations in 1962.

Security assurances

The next issue of long-standing interest to Africa as a region is that of security assurances. From the early stages of the negotiation of the NPT, security assurances became an important area of concern for Africa and for the rest of the non-aligned third world countries. Ethiopia, Nigeria and the United Arab Republic were among the eight non-aligned members of the multilateral Geneva disarmament conference that sought security assurances from the nuclear-weapon

States (NWS) in return for their acceptance of non-nuclear status.[8] The group sponsored General Assembly resolution 2028 (XX), adopted without dissent on 23 November 1965.

In Security Council resolution 255 (1968), the three NWS (United Kingdom, Soviet Union and United States), readying themselves to join the NPT, gave as much as they were then prepared to give in positive security assurances to the non-nuclear-weapon States (NNWS). The three NWS made declarations "that they will provide or support immediate assistance, in accordance with the Charter, to any NNWS Party to the Treaty on the Non-Proliferation of Nuclear Weapons that is a victim of an act or an object of a threat of aggression in which nuclear weapons are used".

On the issue of negative security guarantees, the NWS were less forthcoming, mainly because of the cold war and their different nuclear doctrines and security interests. Since 1968, both the negative and positive security assurance issues have been raised repeatedly by Nigeria, Egypt and other NNWS that support the NPT but want to receive stronger security assurances in return for continuing to adhere to the NPT and for subscribing to its longer-term extension. At the 1990 NPT Review Conference, Nigeria proposed to conclude an agreement on the prohibition of the use or threat of use of nuclear weapons against NNWS parties to the NPT, while Egypt proposed to call on the Security Council to adopt a new resolution that would include credible assurances beyond what Security Council resolution 255 (1968) provided. The Egyptian proposal also sought a commitment by the NWS on negative security assurances to all parties to the NPT.

At the initiative of NNWS, the General Assembly urged agreement on negative security assurances at its 1992 regular session and reaffirmed "the urgent need to reach an early agreement on effective international arrangements to assure non-nuclear-weapon States against the use or threat of

use of nuclear weapons". However, with the conclusion of the Tlatelolco Treaty in 1967, and the Rarotonga nuclear-weapon-free zone (NWFZ) Treaty in 1985, many States now enjoy unconditional security assurances through their membership in NWFZ. Africa has been in the forefront of the effort to extend security assurances to all non-nuclear-weapon States on a global basis. The adoption of the African NWFZ Treaty should bring to Africa the same unconditional security assurances enjoyed by the members of the other nuclear-weapon-free zones.

African NWFZ

The year 1995 was destined to see the end of some of Africa's major concerns in the nuclear age, when the Treaty on the African NWFZ was concluded. Even when the French nuclear tests were moved to the South Pacific islands, the impetus for the denuclearization of Africa was kept alive by the existence of the apartheid regime in South Africa and the potential threat it posed to the rest of the continent. Happily that chapter in African history is now closed, and the continent can now look forward to the actualization of the African NWFZ, with its promise of peace, progress and security in the region, as well as the enhancement of regional and international cooperative effort in the peaceful uses of nuclear energy in Africa.

Peaceful uses and regional cooperation

The peaceful application of nuclear energy in Africa up to the 1990s has been mostly on a national basis, with each country getting as much assistance as it could from IAEA and other international and national organizations. There was hardly any neighbourly exchange of experience or regional cooperation in such matters. African countries encounter many problems in the areas of health care, agriculture and

industry whose solutions could benefit from the use of nuclear techniques, if the countries were in a position to apply them. Except in a few countries, national efforts at harnessing the peaceful benefits of nuclear energy have not been significant. In Africa, South Africa generates about 5 per cent of its electricity with its two power reactors at Koeberg, and only five African countries have nuclear research reactors that can provide them with short-lived radioisotopes for medical and other applications.

A method of obtaining greater benefits from peaceful applications of nuclear energy is through internationally sponsored cooperative projects. Several such undertakings have been mounted in various African countries in the past two decades with a considerable degree of success. These included: *(a)* Mediterranean fruit-fly eradication in North African countries; *(b)* biological control of tse-tse fly infestation (BICOT) project in Nigeria; *(c)* new world screwworm fly eradication in Libya; *(d)* rinderpest control project in 14 African countries; and *(e)* tse-tse fly eradication project in the island of Zanzibar in Tanzania. All the above projects but one involved the use of the sterile insect technique (SIT), and only the rinderpest project used a different method involving radioimmunoassay (RIA). Each project usually involved the country or countries affected by a pest, one or more United Nations organizations and several donor countries and/or their aid-giving agencies and foundations.

The eradication of the new world screwworm in Libya using the sterile insect technique (SIT) was one of the most successful cooperative projects in Africa in recent times.[9] The international programme to eradicate this insect pest achieved complete success in April 1991, when the last case of screwworm infestation was found, compared with 12,068 cases in 1990. The SIT technique in this case involved the release of millions of laboratory-reared, radiation-sterilized screwworm flies over the infested area, thus increasing

significantly the chance of sterile males mating with more fertile females and thus halting the reproduction of more offspring. The cost-benefit ratio of this programme exceeded 50:1, leading to millions of dollars in savings to the country in livestock production.

Apart from achieving the main objective of such projects and conferring considerable economic benefits on the countries affected by a pest, these endeavours usually embody a large component of North-South technology transfer. The methods and techniques developed for each project, the scientific facilities and equipment provided, as well as the large cadre of scientists and technicians trained for the projects in each country, invariably remain to provide the necessary infrastructure for the continued benefits of such projects. It seems pertinent at this juncture to express the view that North-South technology exchange in nuclear science and industry has been freer and more transparent than in most other industries, thanks to international safeguards and the non-proliferation regime. The amount of North-South transfer in this field in Africa seems only limited by the ability of African countries to absorb it.

Regional cooperation

The Asian Regional Cooperative Agreement (RCA) for research, development and training related to Nuclear Science and Technology, established in 1972, and a similar regional agreement for the Latin American region (ARCAL), had fully demonstrated the enormous benefits that accrue to a region from such cooperation. Hence, at the initiative of several African States, the African Regional Cooperative Agreement for Research, Training and Development (AFRA) was concluded with the support of IAEA and entered into force in April 1990, when three African member States of IAEA signed the agreement. In September 1994, the AFRA agreement was extended for another five years, as is the

practice with such regional cooperative agreements. Currently, 19 countries have become members, in the following order: Tunisia, Egypt, Algeria, Nigeria, Madagascar, Libya, Morocco, Kenya, Sudan, Ghana, Tanzania, Mauritius, Cameroon, South Africa, Zaire, Ethiopia, Zambia, Niger and Côte d'Ivoire.[10]

One of the exciting things to happen to AFRA recently is the admission of South Africa in 1992 as the 14th member. For 20 years up to 1977, South Africa had been a permanent member of the IAEA Board of Governors, representing the African region as its most advanced nation in nuclear technology. During this period, the African nations were denied any benefits that such a technically advanced country in their region could confer, mainly because of the apartheid system in South Africa. To show their concern for this anomalous situation, the African States chose Egypt as the permanent member for their region on the IAEA Board of Governors. It is significant to note that South Africa wasted no time, after returning to the African "family-fold", in inviting scientists from other African nations, through their Governments, to visit South Africa and tour their nuclear establishments and to engage in cooperative endeavours with South Africa in the area of peaceful uses of nuclear energy.

Since its inception, AFRA has proved an important mechanism for promoting regional cooperation, coordinating resources and enhancing the region's capabilities in diverse areas of nuclear technology application. Participating countries aspire to build on achievements attained through national effort or with the assistance of IAEA, and also to ensure that available resources and expertise in the region can be most effectively shared. Specific AFRA programmes address the relevant areas of regional development as well as strengthen national basic infrastructure in radiation safety and effective use of nuclear and related technologies.

Food and agriculture

Agriculture is the mainstay of the economy of most African countries, and it is often severely affected by many adverse climatic and environmental factors. Post-harvest losses of foodstuffs often reach 50 per cent, and such huge losses can be substantially reduced in grains, vegetables, root crops and fruits by food irradiation technology. The AFRA programme in food and agriculture supports collaborative efforts to use appropriate technologies to improve crop and livestock production. Current projects deal with food preservation using irradiation technology, animal reproduction and nutrition, as well as crop improvement by mutation breeding and biotechnology.

Human health

African hospitals have used radiation and radionuclides for medical purposes in cancer therapy and diagnostics for decades. Currently, radioimmunoassay is used worldwide as a diagnostic technique in thyroid-related and iodine-deficiency disorders. As the reagents for this technique are imported by most African countries, an AFRA project initiated in 1991 has focused on the introduction of bulk reagent methodology, standard RIA practices and quality control, and the local production of some of the simpler primary reagents.

Industrial applications and instrumentation

Industrial applications of nuclear techniques used worldwide include non-destructive testing (NDT) for quality control of industrial products, and radiation processing used mainly for radiation sterilization of single-use medical supplies and pharmaceuticals. Most African countries lack the necessary infrastructure for the proper application of these techniques. Consequently, AFRA projects were initiated in NDT and radiation processing and provided training for

several participants from many countries in ultrasonics and radiographic testing, as well as in radiation processing.[11]

All nuclear-related activities involve specific and complex equipment and electronic instrumentation, which in Africa are often used in an unfavourable working environment of high humidity and temperature, dust and frequent power outages. As most of the equipment is imported, servicing and maintenance pose difficult problems of expense and logistics. With the support of IAEA, some AFRA States have adopted a regional approach to consolidate or upgrade their national instrumentation and electronics laboratories for the repair and preventative maintenance of nuclear and medical equipment.

Radiation protection and safety

Safe use of nuclear energy requires basic infrastructures for radiation protection and radioactive waste management. These involve the setting up of a competent national authority, the establishment of a legislative and regulatory framework, and the development of operational monitoring services for proper enforcement of radiation safety standards.

In most African countries, basic infrastructures are inadequate or non-existent, thus impeding the development of nuclear technology application programmes. Management and disposal of radioactive wastes arising from medical and industrial applications remain an issue of major concern in most African countries. AFRA programmes are now aimed at improving regional capability for proper radioactive waste management and the harmonization of environmental monitoring approaches and measurement techniques. In addition, countries are encouraged to set up the necessary legislative and regulatory framework for ensuring safe application of nuclear energy.

Achievements and prospects

From its inception, AFRA has successfully established a suitable framework that enables African scientists and technicians to share available resources and facilities, exchange information and experience, and assist those countries still in need of expertise in nuclear science and technology. There is now greater awareness in Africa that regional cooperation holds considerable benefits for everyone, a better understanding of the infrastructure and expertise available in the region, and an appreciation of the many constraints and weaknesses that still prevent greater contribution of nuclear techniques to the social and economic development of the region. These achievements, albeit modest, have strengthened the concept of regional cooperation and self-reliance on the continent. The region's most developed countries are expected, and ready, to play a major role in further consolidating the benefits of nuclear technology to Africa through mutual assistance and regional cooperation by opening up their nuclear facilities to other African countries and by financially supporting AFRA activities.

Conclusion

From this overview, it could be considered that Africa has done creditably well in the area of safeguards and nuclear non-proliferation. Africa's early initiative in offering, as a region, to foreswear the possession of nuclear weapons has now been fully vindicated by the number of nuclear-weapon-free zones already negotiated, including the African NWFZ. Indeed Africa can proudly claim a notable first of its kind in the area of nuclear disarmament. The revelation by South Africa in March 1993 that it had produced nuclear weapons, but had unilaterally decided to abandon the weapons programme and destroy the nuclear devices before accession to the NPT as a NNWS, is indeed unique in this nuclear age. An

important lesson for humanity in this event is the demonstration that nuclear weapons are not indispensable.

Africa's achievements in the area of the peaceful application of nuclear energy are indeed minuscule compared with those of other regions of the world. With inadequate resources, poor scientific and technical infrastructure, and plagued by social and political instability, the efforts of individual countries in tackling their health-care, agricultural and industrial problems through the application of nuclear techniques have achieved limited results. However, by cooperating with other countries, either regional or internationally, greater results have become achievable, as has been demonstrated by various cooperative programmes.

South Africa's membership in AFRA and participation in other regional cooperative activities augur well for the region. The considerable experience and facilities of South Africa can help Africa close the huge gap in its application of nuclear technology. As the African NWFZ becomes a reality and all the institutional arrangements for its implementation fall into place, Africa will be able to reap more benefits from the applications of nuclear technology and also enjoy enhanced security assurances from its staunch adherence to the nuclear non-proliferation regime through the African nuclear-weapon-free zone.

Notes

1 Jan Murray, "Africa's role in meeting world uranium demand", Programme for Promoting Nuclear Non-Proliferation (PPNN) Conference, Harare, April 1993.

2 W. E. Stumpf, "Nuclear energy in Africa", PPNN Conference, Harare, April 1993.

3 Ibid.

4 A. von Baeckmann et al., "Nuclear verification in South Africa", *IAEA Bulletin*, vol. 37, No.1 (1995), p. 42.

5 Benson N. C. Agu et al.,"Monitoring of radioactive fallout from the French nuclear tests in the Sahara", *Report to the Nigerian Government* (Lagos, 1961).

6 O. Adeniji,"How can Africa strengthen the non-proliferation regime?", PPNN Conference, Harare, April 1993.

7 Ibid.

8 G. Dunn and R. Timerbaev, "Security assurances to non-nuclear-weapon States", *The Non-Proliferation Review* (Fall, 1993).

9 "Highlights of IAEA Activities", September 1992.

10 A. Boussaha et al., "Nuclear cooperation in Africa", *IAEA Bulletin*, vol. 37, No.1 (1995), p. 37.

11 Ibid.

The African Nuclear-Weapon-Free Zone and Sustainable Development on the Continent

Tilahun W. Selassie

Fifty years ago, when the United Nations was founded, Africa was already well known to the West and was no longer the "dark continent". For most of Africa under colonial rule, another type of darkness reigned, as only two States—Ethiopia and Liberia—were politically independent. With their war for political independence won, 53 African States are now fighting a more difficult war against hunger, malnutrition, disease and economic deprivation. For that they sorely need a peaceful environment. The African Nuclear-Weapon-Free Zone (NWFZ) Treaty promises a degree of peace and stability in which to fight this war and some of the tools with which to fight it. This article looks at the concept of safeguards and nuclear non-proliferation in the context of the Treaty, and discusses the relevance and potential of nuclear science and technology for contributing to the solution of the continent's numerous and urgent problems.

Tilahun W. Selassie was Associate Professor at Addis Ababa University and is now the General Manager of the National Radiation Protection Authority in Ethiopia. He was a member of the United Nations Group of Experts to Prepare a Draft Treaty on an African Nuclear-Weapon-Free Zone.

Non-proliferation and the African NWFZ Treaty

The driving force behind the controlled chain reaction of December 1942 in Chicago, United States, was primarily military and led to the atomic bombings of Japan in August 1945. By 1952 the United States monopoly of nuclear weapons had disappeared, as both the former Soviet Union and the United Kingdom had succeeded in detonating nuclear explosive devices; the Soviet Union followed its fission bomb by the more devastating fusion one. Between 1960 and 1964, France and China joined the club of nuclear-weapon States. In October 1962, the world was brought to the brink of nuclear war in the Cuban missile crisis, making it painfully clear that the horizontal and vertical proliferation of nuclear weapons only guaranteed a mutually-assured global destruction rather than peace and security. India declared its nuclear explosion capability in 1974 and South Africa constructed its first nuclear explosive device in 1976, while Israel is also acknowledged as a virtual nuclear-weapon State. Pakistan has had a uranium enrichment plant in operation for almost a decade with no civil nuclear power programme to justify the effort, and a number of other States, such as Iraq and the Democratic People's Republic of Korea (DPRK), are considered to be on the threshold of nuclear weapons technology.

From the outset, man had the option either to use the awesome power of the atom for destructive nuclear warfare or to exploit it safely for his own benefit. While the challenge of "rolling back" the curtain on nuclear weapons still remains a difficult and complex one, significant strides have been made towards reducing horizontal proliferation of nuclear weapons and promoting peaceful applications of their technology. Significant milestones in this regard were the "Atoms for Peace" concept, leading to the establishment in 1957 of the International Atomic Energy Agency (IAEA);[1] the 1967 Treaty on the Prohibition of Nuclear Weapons in Latin America and the Caribbean (Treaty of Tlatelolco);[2] the 1970

Treaty on the Non-Proliferation of Nuclear Weapons (NPT),[3] extended indefinitely in May 1995; and the 1986 Treaty of Rarotonga, declaring the South Pacific a nuclear-free zone.

A nuclear-weapon-free zone treaty for Africa had been contemplated since 1960, when, despite a 1959 United Nations resolution to the contrary, the Government of France proceeded to conduct nuclear-weapon tests in the Sahara. In 1961, a General Assembly resolution formally called upon all States "to consider and respect the continent of Africa as a denuclearized zone". That resolution was subsequently reaffirmed at the founding meeting of the Organization of African Unity (OAU) in 1963, and has since been the long-standing vision of all independent African States. With the historic announcement by the South African Government, in March 1993, that it had dismantled its nuclear weapons programme, a major obstacle was removed and an African nuclear-weapon-free zone (NWFZ) Treaty became a de facto reality. Like the NPT and the two regional non-proliferation treaties before it, the African NWFZ Treaty requires States Parties to "conclude a comprehensive safeguards agreement with IAEA for the purpose of verifying compliance with the undertakings" of the Treaty, and to "promote individually and collectively the use of nuclear science and technology for economic and social development". The African NWFZ Treaty also will establish an African Commission on Nuclear Energy (AFCONE) to work in close collaboration with OAU and IAEA for the attainment of the two aforementioned major objectives.

Of 485 nuclear power stations either operational or under construction worldwide, Africa can boast only two power plants in South Africa and the few research reactors, either operational or under construction, in Algeria, Egypt, Ghana, the Libyan Arab Jamahiriya, Nigeria, South Africa and Zaire. With the clear exception of South Africa, and possibly Egypt, it is obvious that Africa's nuclear science and technology is only at its nascent stage. Indeed, except for the

policies of the former South African Governments and the attitudes of the nuclear-weapon States, all nuclear activities by African States have been of such a modest and peaceful nature and under full view of IAEA that an African denuclearized zone would have long been possible. It is therefore to the considerable credit of the present South African Government that it has unilaterally rejected nuclear weapons and made a vital contribution to the realization of the African NWFZ Treaty. In fact, Africa can be proud of South Africa for having shown the nuclear-weapon and would-be nuclear-weapon States that security is provided by nuclear disarmament and not by the proliferation of unlimited destructive capability. Indeed, the nuclear-weapon States are challenged to break their "nuclear sword" and to match South Africa's miniature ploughshare now at the headquarters of IAEA in Vienna.

The development of regional non-proliferation treaties, like those of Tlatelolco and Rarotonga, has been welcomed as having a great potential for strengthening the nuclear non-proliferation regime and eventual nuclear and general disarmament. In that context, the recent adoption of the African NWFZ Treaty should be regarded as a milestone. International political and legal frameworks like the African NWFZ Treaty and institutions like AFCONE are essential requirements for ensuring the effective and safe use of nuclear energy for peaceful purposes in Africa.

Nuclear energy in peaceful applications

Alongside its provision for safeguards in article III, the Treaty, in article IV, requires that "all parties to the Treaty undertake to facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy". The NPT also provides for "the further development of the applications of nuclear energy for

peaceful purposes, especially in the territories of non-nuclear-weapon States Party to the Treaty, with due consideration for the needs of the developing areas of the world". Thus, while enabling its member States to make binding and verifiable commitments to non-proliferation, the NPT also promises to facilitate a transfer of peaceful nuclear applications to those making the commitments. The same objectives, as in the NPT, underlie the Tlatelolco and Rarotonga Treaties, and now the African NWFZ Treaty.

When considering the peaceful applications of nuclear energy, there are a number of unique and versatile applications that already are, or have potential for, transforming socio-economic development, notably in food and agriculture, human health and nutrition, natural resources exploration and development, environmental monitoring and protection, and industry and research. The contributions of nuclear techniques, particularly in agricultural research and development, are considerable. Through the Joint FAO/IAEA Division for Nuclear Techniques in Agriculture—formed in 1964 by the unification of the Food and Agriculture Organization's atomic energy branch and IAEA's agricultural unit—many countries have been helped to solve practical and costly problems in the areas of soil fertility, irrigation and crop production; plant breeding and genetics; animal production and health; insect and pest control; agrochemicals and residues; and food preservation and sterilization. The Division's activities have enabled nuclear techniques in agricultural research and development to increase and stabilize agricultural production; reduce production costs; improve the quality of food and protect agricultural products from spoilage and losses; and minimize pollution of food and the agricultural environment.

The relevance of nuclear techniques to Africa's development

Prior to about 1950, increases in food production were achieved mostly by bringing more land into cultivation. However, as only 11 per cent of the total land surface of the planet is suitable for farming, it was not possible for this trend to continue indefinitely. Since the 1950s, gains in food production have been obtained largely by increasing yields through more irrigation, more and better mechanization, the use of fertilizers and pesticides, and of new high-yield crop varieties. However, this strategy has also not been without its limitations and problems. Billions of metric tonnes of topsoil are lost annually, so that by the year 2000, according to FAO estimates, soil degradation will take 65 per cent of all the third world's rain-fed land out of production. In addition, 1.5 million hectares of irrigated fields are lost each year to salination. Marginal land and water resources have been greatly overused, and about two billion people in 80 countries around the world live in areas suffering from chronic water shortages. On the other hand, run-off from agricultural lands, with excessive use of pesticides and fertilizers, pollutes rivers, streams and lakes, leading to serious global problems for health and the environment. Recent estimates have shown that the annual total toxicity of all heavy metal pollutants exceeds the combined total toxicity of all radioactive and organic wastes generated globally each year.

The food security problem worldwide is exacerbated by post-harvest food losses through various spoilage agents and insect infestation. The United States National Academy of Sciences has estimated that post-harvest food losses in developing countries in 1985 amounted to more than 100 million tonnes at a value of US $ 10 billion. It is believed that up to 50 per cent of perishable foods, such as fish and seafood,

fruits and vegetables, meat and poultry, and as much as 25 to 30 per cent of grains are lost annually in this way.

A problem closely related to food security is food safety. A 1984 report of the Joint FAO/IAEA Expert Committee states that "illness due to contaminated food is perhaps the most widespread health problem in the contemporary world and an important cause of reduced economic activity". Food-borne disease is a widespread and significant cause of morbidity, the social and economic consequences of which are considerable, particularly in the developing countries. The World Health Organization (WHO) estimates that infectious and parasitic diseases represented 35 per cent of all deaths worldwide in 1990, the majority of which occurred in the developing countries. While diarrhoeal diseases represented 25 per cent of all deaths in developing countries, it is estimated that up to 70 per cent of these are due to contaminated water and food-borne diarrhoeal diseases.

Malnutrition or undernutrition, also referred to as "hidden hunger" because its many effects are not visible to the eye, affects some 780 million people, or 20 per cent of the developing world. About 190 million children under the age of five, including 27 million in Africa, suffer from protein-energy malnutrition. About 40,000 children in this age group die every day largely because of malnutrition. Some two billion people in more than 100 developing countries suffer from micronutrient malnutrition, or vitamin and mineral deficiencies, that can lead to blindness, mental retardation, and even death.

Africa's economic problems may be seen in the context and as part of the general global problem of developing countries. However, in the case of Africa, most of the available statistics are particularly alarming. Since 1960, Africa's population has had an average annual growth rate of 3 per cent, the highest for any region. On the other hand, food

production has grown by only about 1.8 per cent, leading to a drop in food self-sufficiency ratio of 19 per cent. The average per capita production of staple food in 1990 stood at 199 kg, as compared to 271 kg for Latin America, and 312 kg for Asia. The region's annual food imports now account for some 30 per cent of its agricultural export earnings.

Water shortages are also not the least of Africa's problems. It is estimated that by the end of the century, Egypt will have only two thirds, and Kenya, only half of the water available today, while six out of seven East African countries and all five South Mediterranean countries will face water shortages. Population growth, droughts, crop failures and accelerating imports in the face of a crippling debt burden have forced many African States to increasingly rely on food aid. A 1993 FAO study estimates that, if the situation is not reversed, about 296 million people in Sub-Saharan Africa, representing 32 per cent of the population, will suffer from chronic malnutrition by the year 2010. Further analysis of the food situation in Africa reveals that a 70 per cent increase in crop production up to the year 2010 will have to be achieved through increases and intensified cropping if Africa is to be able to feed its peoples.

Africa's chronic food shortages and economic condition are seen by most experts, first and foremost, as a problem of its agricultural stagnation, and the issue of food security and self-sufficiency is obviously a matter of top priority. While the solution of these problems is primarily a question of sound economic policy and planning, it can also be appreciated that the potential contributions of nuclear science and technology are considerable. The African NWFZ Treaty puts this in proper perspective with all States Parties undertaking "to promote individually and collectively the use of nuclear science and technology for economic and social development" and "to establish and strengthen mechanisms for cooperation at the bilateral, subregional and regional levels".

In particular, the Treaty encourages Parties "to make use of the programme of assistance available in IAEA" and "to strengthen cooperation under the African Regional Cooperative Agreement for Research, Training and Development Related to Nuclear Science and Technology (hereinafter referred to as AFRA)". AFRA is an intergovernmental arrangement that first came into force in April 1990 for five years, and has now been endorsed to continue for a further five years till the year 2000.

Technical assistance through IAEA is a significant expression of the international commitment made in the NPT to balancing non-proliferation and "Atoms for Peace". In fact, IAEA serves as the key international mechanism for scientific and technical cooperation in the nuclear field. Worldwide, there are now more than 80 developing countries receiving IAEA assistance, and resources made available through the technical assistance programme over the past 25 years amount to nearly US $690 million. In 1995, there are more than 1,200 projects in the programme with a total cost of nearly US $51 million, the geographical distribution being 25.5 per cent for Africa. That distribution has not changed significantly during the last ten years. For the 1995–1996 biennium, the breakdown of this assistance is 22 per cent for food and agriculture, 16 per cent for human health, 12 per cent for the physical and chemical sciences, and 11 per cent for industry and the earth sciences. From 1971 to 1992, 18 least developed countries, 12 of which are in Africa, have on average received 12 per cent of all the Agency's assistance.[4]

For many African countries, the introduction of nuclear techniques for research and training started only in the late 1970s. Thus, of 53 independent African States, only 27 are members of IAEA, and of these, only 19 have so far joined the AFRA programme. There are vast differences in development and use of nuclear technology, ranging from those with little or no activities in the field, to those with research reactors and

nuclear power plants, such as South Africa. The successful application of nuclear technology requires a sound policy of technological development and the provision of adequate financial resources, infrastructure and trained manpower. Many of these prerequisites are lacking in African countries, in no small measure due to the lack of awareness on the part of planning authorities as to the usefulness and applicability of nuclear techniques in a number of priority areas of economic development.

The first five-year period of AFRA saw the development of ten projects covering a wide range of nuclear applications, efforts being concentrated on capacity-building to translate the regional commitments of cooperation into technically and economically sound activities. Efforts were concentrated in the areas of waste management, food preservation, irradiation processing, nuclear instrumentation, local preparation of radioimmunoassay reagents, non-destructive testing, animal production and nutrition, plant breeding and biotechnology, and environmental radiation monitoring and harmonization. Activities in these fields have contributed greatly to increased awareness that regional cooperation holds considerable benefits, and also to a better understanding of the infrastructure and expertise in the region, and, not least, the constraints and weaknesses of the earlier capacity-building efforts resulting from the inadequate provision for the practical utilization of the expertise gained.

While consolidation of the achievements of the first five-year period is to continue, the second five-year period has been entered with a new thematic approach to projects in order to provide better focus, through a more critical assessment of relevance, on the definition of milestones in implementation and the evaluation of return on investment and social impact. The thematic approach for now is to pay special attention to four areas of immediate concern in the region. These are: *(a)* the strengthening of radiation protection infrastructure in

member States; *(b)* the application of nuclear technology to human health initially through employment of radioimmunoassay techniques to the early determination of hyperthyroidism; *(c)* the application of radiation-induced mutation to crop breeding to produce more drought-resistant, higher-yield and disease-resistant crops to increase food production and generate greater export earning capacity; and *(d)* the promotion of radiation technologies, such as food irradiation, non-destructive testing, nuclear instrumentation, clinical radiotherapy, and nuclear reactor operation and utilization.

A new feature in the Agency's technical cooperation programme, which comes during the second five-year period of AFRA, is the introduction of the "model project" concept. This has arisen from the need for greater precision in the identification of projects that will have the most impact and therefore places special emphasis on projects that are in line with national development plans, are of a practical nature, are oriented towards specific end users, and are intended to have a significant impact on the country's overall development. If this approach is successful, the "model project" concept is expected to influence the Agency's technical cooperation activities in the future. One model project now in progress in the African region is "Isotopes in Groundwater Resources Development", covering nine African States in the arid and semi-arid zones.

Conclusion

It should be emphasized that regional cooperative activities are meaningful and relevant only in the context of well-thought-out national efforts in technological development. Lessening the need for independent efforts, they constitute a cost-effective way to strengthen national capacities. This having been said, it is well to note that the African NWFZ Treaty is not an end in itself, but a means to fostering

accelerated development in nuclear science and technology to better tackle the numerous social and economic problems facing our continent.

Like developing regions elsewhere, Africa's priorities are not nuclear warfare plans and weapons programmes, and the need for safeguards may not seem to be a great one. However, there is no denying that keeping Africa free from nuclear weapons will have a major influence in the establishment of denuclearized zones in the Middle East, Southeast Asia, and hopefully, in Europe and North America. Every little contribution we Africans can make towards nuclear disarmament and eventual general disarmament can only increase our chances of better coping with the most urgent and basic problems of sustainable economic and social development facing us today.

Notes

1 The statutory mandate of IAEA is "to accelerate and enlarge the contribution of atomic energy for peace, health and prosperity throughout the world and to ensure, so far as it is able, that assistance provided by it or at its request or under its supervision or control is not used in such a way as to further any military purpose".

2 Thirty-two out of the 33 States in the region have adhered to the Treaty and the remaining State, Cuba, is also officially committed to full membership. The five declared nuclear-weapon States are also party to the Treaty's protocols. Thus the Tlatelolco Treaty is expected to come into full legal force very soon.

3 With the NPT's entry into force, the non-nuclear-weapon States party to it are obliged to conclude a "full-scope" or comprehensive safeguards agreement with IAEA, which enables the Agency to apply safeguards to all sources of fissionable material in all peaceful nuclear activities within the State, under its jurisdiction, or carried out under its control anywhere with a "view to preventing the diversion

of nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices". At the end of 31 December 1994, 199 safeguards agreements were in force with 118 States.

4 The main mechanisms of IAEA's technical assistance to countries requesting it are technical cooperation projects with individual member States and the three regional cooperative agreements in Latin America, Southeast Asia and the Pacific. Fifty-four IAEA member States are now participating in these agreements, with more than 40 regional training activities being carried out each year. While technical cooperation projects aim at basic infrastructure and capacity building and the solution of specific development-oriented problems in individual member countries, the regional activities aim at enhancing regional and subregional self-sufficiency in scientific disciplines and appropriate technology by chlorinating skills and facilities acquired through national efforts. Both technical cooperation projects and regional activities benefit from the Agency's research contract programme, most of which are made available as components of Coordinated Research Programmes (CRPs) for the cooperative investigation of topical problems in a range of fields of interest.

Regional Issues: Southern and Central Africa

Southern Africa's Security: Six Propositions for the Twenty-first Century

Peter Vale

Without tolerance, the foundation for democracy and respect for human rights cannot be strengthened and the achievement of peace will remain elusive.

Aung San Suu Kyi, Beijing, September, 1995

The early 1990s have been kind to southern Africa. After decades of conflict and mindless repression in the cause of minority rule, apartheid was ended and in an increasingly

Peter Vale is Professor of Southern African Studies, University of the Western Cape, South Africa, and Visiting Professor in Political Science at the University of Stellenbosch. In 1996, he will be UNESCO Professor of African Studies at the University of Utrecht, The Netherlands. He also writes on South Africa's international relations for the Johannesburg-based Weekly Mail *and* Guardian.

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forgotten but near parallel process Africa's last colony, Namibia, was brought to independence.

These developments have made the prospects for peace for the region seem bright. With conflict at an end, the thoughts of the region's 100 million people have turned to new challenges: economic growth and development are top priorities. Meeting these, however, will not be easy. For all the promise of a global village, southern Africa remains distant from established points of economic growth. In addition, its economic base is low and education levels—the primary indicators of industrial potential—are poor.[1] Rising to the challenges of the twenty-first century will therefore not be easy for the region's people, but failing to reach out may be disastrous.

Long-term thinking has not been made easier by international developments. Consider this chain of contradictions. In an era in which the call for a return to colonialism is commonplace,[2] southern Africa's people are being called upon to meet greater global competition; in an era in which ethnicity is assertive, southern Africa's people are being asked to build democracy upon political formations that have fostered centralization; in an era in which the cult of political personality is strongly discouraged, southern Africa's people are being asked to put their hope in a country, South Africa, which is led by one of the century's most charismatic figures, Nelson Mandela.

How will the subcontinent meet these and other twenty-first century paradoxes? Conflict is unavoidable in the tide of human affairs. To pretend that it does not exist is to repeat the mistakes made during the first generation of African leadership, when idolatry and silence meant retrogression and reversal; however, quickly revived enmities first shook, then helped to drag, African countries under.

The present confidence cannot endure. Minority rule has bequeathed a legacy of imbalance—a rich and powerful South Africa, impoverished and weak neighbours: in South Africa itself, white wealth and black poverty did not end with apartheid. These tease and challenge political processes aimed at reconciliation, nation-building and regional integration. Almost more ominously, Rwanda, Burundi and Zaire suggest that new world problems—collapsing States, human spillage and despair—stalk the neighbourhood.

Those terms suggest why the region's people should seize the moment to think creatively—to borrow David Mittrany's famous phrase—about a working peace system which will secure southern Africa deep in the next century.[3] That will not be easy: as the region's people know, it took seventy years to end colonialism and forty more to end apartheid. But the problems associated with transition suggest why thinking about the future needs to start today.

The ideas in this essay will not end the region's conflict nor, indeed, automatically promote much needed economic development. They may, however, help to anchor political systems, so that common regional goals can be pursued in an area too often neglected by policy-makers—they may help an increasingly sceptical world understand that a system is being developed in southern Africa.

Proposition one: use, don't abuse, the "new" security agenda

For most of the post–World War II years, security in world politics derived from a top-down conception of society and politics.[4] This focused on the security of States and on military stability. Since the mid-1980s, a growing body of opinion has favoured an expanded concept of security.[5] Through this prism, security is conceived in terms of vertical levels (the security of individuals, relevant groups, States, and

humankind as a whole) and in terms of different horizontal dimensions (including a wider agenda of issues—political, economic, societal, gender and environmental, as well as military).

The expanded concept of security is important for southern Africa, where top-down, State-centred and militarized perspectives do not accord with either the empirical character of the region's States[6] or the normative concerns of non-State actors.[7]

While normative impulses can be challenged, few will dispute the inappropriateness of traditional security analyses to a part of the world where the infrastructure is markedly different from European experience that forged orthodox security thinking. Because the "States" of southern Africa do not match the textbook images so loved by orthodox political science, widening and deepening the agenda will help to secure both the governed and those that govern them.

Typical of this is the "threat" represented by the linkage between water and food security in a region with a high propensity for drought.[8] Until the 1990s, such issues were not on the security agenda. The drought and near famine of 1992 brought authorities in the region closer to understanding that, without adequate planning, the provision of a basic need—water—is problematical. The Southern African Development Community (SADC) was aware of the problem, but South Africa—the region's most security conscious State—was not prepared, and neither was Botswana—on some indicators the region's wealthiest country, which was to discover an important link between urban poverty and drought.

The threat of food scarcity is, for many, more fundamental than the threat of military violence. Achieving household food security in southern Africa has been held back; this is central both to economic development and

regional security. Although the economies of the region are open, trade within the region is small. At the same time, agricultural performance has been poor in comparison with the growth of population, and has had to be offset by increasing imports of cereals and the provision of food aid. In mid-1995, the link between drought and food shortages was again on the regional agenda as it was reported that the region's maize output would fall by 41 per cent.[9]

When food shortages and water scarcity coincide with mass migration and the breakdown of society, the result may be cholera. This threat is more virulent because of the widespread ignorance about the development and transmission of this and other diseases. In these and other examples—drugs, violence, arms-trafficking to mention only three—it is evident that security threats in the region are intimately interconnected.

The outcome of the World Summit for Social Development held in Copenhagen in March 1995 suggests that the questions of poverty, development and security are linked. The case for the new security agenda has never been stronger but, it seems, militaries in the region are prepared to use the expanded agenda to press for more resources. For example, the South African National Defence Force issued for public comment a draft White Paper in June 1995. Although a welcome departure from the apartheid-centred belligerence, the White Paper used the underlying notions of the new security agenda to plead the case for the maintenance of defence expenditure at best and, at worst, the reinvention of a political role for the military.

Of course it is easy to use the increasing sets of security concerns in the region as a means to exaggerate the hypothetical battles much loved by those who draw up military budgets—to use increased migration figures or increased crime statistics as a means to boost public support

for increased military spending. But approaching the security problems associated with a changing security agenda through the binary logic of the military is no substitute for the need to think again. Deep-seated social dislocation, the legacy of decades of simplistic security-driven politics, can only be effectively offset with development and empowerment.

Proposition two: build regional civil society

Traditionally, security studies have almost exclusively focused on governments and their instruments of policy. But as the history of civil society in both South Africa and Eastern Europe in the 1980s shows, governments are not the only decisive agents of change. Of course governments cannot be ignored. They control important levers of power, but State power cannot offer effective anchors for reconstruction if States themselves falter.

This is why the building of comprehensive security requires energetic foreign policy from below, as well as at the inter-State level. Success, however, will require the growth of civil society throughout southern Africa; within individual countries it needs to deepen but, at the same time, be transnational.

Efforts at awakening regional consciousness in southern Africa have been complicated by the experience of the immediate past. Apartheid and colonialism made the development of transnational links difficult. The region's economic development had the opposite effect however; this may become a factor in the search for new forms of regional association.

Looking beyond the State as a way of achieving regional security is only at an embryonic stage. Where groupings in the region have managed to coalesce, forms of regional solidarity have been expressed. The outstanding example is the draft Social Charter of Fundamental Rights of

Workers in southern Africa; this contains a variety of demands, including one on Migrant Workers.[10] Recent suggestions include the adoption of a Charter of Citizenship for Southern Africa and the appointment of a respected individual from the region as a roving ambassador in the region to lower tensions and help confidence-building.[11] The SADC process has also helped to build professional associations across the region.

The region was intensely involved with the struggle of South Africa's majority in a multiplicity of ways; for example, many South African exiles made their homes in the region. The experience in exile may lend itself to effective person-to-person links over the course of time. Without strong civil society across the region it is unlikely that either regional consciousness or the development of a comprehensive and all-encompassing vision of security and its essential partners—development and empowerment—will deepen.

Proposition three: use the opportunities offered by porous borders

Traditional approaches to security have privileged power and order in determining policy; inevitably, this has led to a focus on States, their borders and the preservation of the status quo. Because it has faithfully followed the Organization of African Unity's dictum on the sanctity of colonial borders, southern Africa has been no exception.

Recent events, however, have opened up the space for a new perspective on this decade's old mantra. South Africa's return of the once contested enclave of Walvis Bay[12] to the people of Namibia has opened footholds for discussion on the geographical integrity of the African State.

At the State level there have already been some debates about the region's geographic future. During a State visit to Lesotho in mid-July 1995, the President of South

Africa focused opening discussion with Lesotho on giving the tiny mountain kingdom access to the sea through South Africa;[13] Lesotho has also claimed parts of South Africa's Free State Province; and the region's other small State, Swaziland, has laid claim to areas of South Africa's Mpumalanga (the former Eastern Transvaal) province.

Imaginative responses to the border issue can appear as quite natural to the rhythm of its peoples.[14] This is why the announcement, in May 1995, by the Premier of Mpumalanga, Matthews Phosa, that he would seek an "economic bloc" with both Swaziland and the southern provinces of Mozambique, was greeted with equanimity. For centuries the indigenous people of this fertile triangle of African *lowveld* have considered themselves united by the bonds of blood, barter and the search for a better life. They speak a common language; the area engages in a rich exchange of goods, labour and contraband; and as has happened so often in Africa, the border between the States was a strong growth point. In essence, Mr. Phosa has reasserted a series of truths that were previously masked by colonialism, apartheid and the search for nationhood. Southern Africa's people belong together for reasons that go beyond geography; ancient ties of kinship straddle each of the region's innumerable national boundaries. This confluence of forces has been reinforced by porous national borders that have built a regional economy that recognizes no borders. By offering new solutions, the myths that created the region's current maps are challenged and probing new forms of subregionalism are imagined.

Through the process of re-knitting, a surprising number of everyday problems may be overcome. As people reunite, economies of scale can become effective and small entrepreneurs—increasingly seen as essential for sustainable development—can take root. The creative impulse of border economies has to be harnessed and deepened.

In southern Africa, as in other regions of the world, there is increasing tension between fragmentation and integration. That tension makes the future seem bleak. But is it necessary to see the problem only this way? Why is it not possible, at the end of the twentieth century, for there to be both fragmentation and integration? That would involve moving away from simple patterns of association towards processes that will shift power away from the State level. In one direction, that will deepen regional community institutions; in another, it will strengthen local community bodies.

Many will argue that this approach might deepen irredentism, which is already threatening to tear countries in the region apart: Zanzibar and South Africa's desperately troubled KwaZulu-Natal province are just two examples.

But challenging questions remain. Should southern Africa's people support the re-creation of a regional system of relatively homogeneous "States", seeking to pursue "national interests" relatively autonomously? Or, alternatively, should they seek to develop an identity around a southern African community made up of non-statist States committed to regionalism and human diversity internally and externally?

Proposition four: understand that southern Africa turns on a single economy

All southern Africa's people share in a common wealth. Although joined in a single economy, southern Africa's people have been parcelled into a dozen States, each with an array of formal institutions, each State purporting to represent the interests of its citizens, and each—as a reading of national histories suggest—with the capacity for coercion.

Mine labour has been the backbone of the region's economy since the 1890s. This has drawn millions upon millions of southern Africa's people southwards as generation upon generation of people have followed their forebears in a

rite of regional passage. Driving this mix of politics and anthropology was that single unit of wealth generation.

Other examples of the single economy are to be found in the interlinked transport routes, complementary power grids and, as is now abundantly clear, interdependence on water supplies.

In the 1990s a new wave of economic relocation is under way in southern Africa. While drawing on individual understandings of the region's past, migrants now anticipate an entirely different future for the region than that which was offered by State-to-State orthodoxy.

New trends in regional interaction have been set in motion. Many people have been "pushed" from their own countries by lingering conflict, devastating droughts or deepening environmental decay. There are also micro-trends: Angolans moving to Namibia, and Zambians moving to Zimbabwe and Botswana. Other trends are less immediately obvious. One such is the migration of skilled professional people from the region to South Africa, the latter's gain representing a serious loss to countries already desperately lacking in skills.

Migration has undoubtedly undermined the viability of States and the integrity of borders. That movement creates crises in the lives of individuals and threatens the fabric of societies. Although South Africa's economy has undoubtedly benefited from the contribution of migrants, the issue itself has traumatized the public in South Africa as elements in the press and elsewhere have drawn simplistic understandings of the challenges that surround regional migration.[15]

Where unemployment is already a problem—as in South Africa—the arrival of migrants exacerbates social tension, resulting in ugly demands for mass deportations of "illegals", for electric fences and for military patrols. Those

are not the images the post-apartheid government, and South Africa's people, want to project.[16]

The issue of migration is, of course, international and has been broadened by global change. In southern Africa the energy unleashed by migration must be made into a positive factor for region-wide reconstruction. Governments and companies must be encouraged to look upon the region as a single labour and economic unit. An incentive towards economic decentralization should be built into long-term planning, and into thinking on regional resource development.

Only that will save South Africa's Gauteng Province and the region's economic heartland from the water shortages that face it early next century.

In the interim, wise leadership must offset the damage that migrant-phobia has engendered. Nelson Mandela and his deputy, Thabo Mbeki, have been at pains to stress the reciprocity that South Africans owe their fellow southern Africans. In a visit to the troubled Alexander Township near the region's financial capital, Johannesburg, in mid-August, the President of South Africa reminded his enthusiastic supporters not to forget the generous and philanthropic attitude displayed to South African exiles in African countries during the apartheid years.[17]

Proposition five: deepen, don't widen, regional institutions

Four inter-State regional groupings have been searching for ways to engage the region's people, and the promise of security has played a significant part in this appeal.[18] But there is an obvious and immediate problem. The members of these are States, and as such there are limits to the extent to which they can be involved in the domestic affairs of neighbouring States. In part this will be balanced by efforts to recognize the

rights of individuals,[19] but willing the end does not necessarily produce the availability of the means.

That is why, as was urged in the second proposition, the weakness of civil society in the region needs to be addressed. Until that is done, there will be political constraints on securing the rights of individuals.

The security of the apartheid State was pursued by an offensive military strategy[20] designed to keep the African National Congress (ANC) as distant as possible from the country—a strategy that had a devastating effect on the region—and by an attempt to underpin its position by creating a regional economic institution. The latter was the stillborn Constellation of Southern African States, which was introduced in the late 1970s. To counter that, States of the region engaged in a process of community-building, which was aimed, not so much at security in a military sense, but at asserting economic independence.

Two separate economic groupings were formed—the Southern African Development Coordination Conference (SADCC) and the Preferential Trade Agreement of East and Southern Africa (PTA). The former is now known as the Southern Africa Development Community and, in 1994, it was decided that the latter be called the Common Market for Eastern and Southern Africa (COMESA). Still another regional economic arrangement—the Southern African Customs Union (SACU)—has linked South Africa to its closest neighbours since the beginning of the century. (See annex for further details.)

To counter apartheid's military offensive, the countries of the region established a security system known as the front-line States. Created with quite distinctive goals in mind, this arrangement was also imbued with distinctive and very personalized mechanisms to resolve inter-State conflict. Its success prompted efforts to prolong its life, and it has

re-emerged as the Association of Southern African States. Therein lies a problem in that SADC committed itself in 1994 to the development of a security and diplomacy capacity. Can the region afford two distinct institutions dealing with security questions?

The proliferation of security institutions in post-war Europe offers a useful comparison. The delicate stability that evolved in the West did so as a result of complex institutionalization, as opposed to any search for a single security regime. Although each had a different weight, the European Economic Community, the North Atlantic Treaty Organization, the Western European Union, the Organization for Security and Cooperation in Europe (formerly the Conference for Security and Cooperation in Europe) and the European Court all played equal parts. It would be difficult to devise any single regime structure to cover the range of functions served by these organizations. Is this the case, by analogy, in southern Africa?

Although it is tempting to believe that is the case, the evidence on the ground suggests that a concentrated effort is needed. The various existing bodies continue to clash over security policy,[21] and the present dual system led to tension at the August 1995 SADC summit in Johannesburg. Efforts to paper-over the existing confusion—as item 16 of the summit communiqué showed—are clumsy. More important, institutional rivalry weakens efforts at mediation and timely containment.

Efforts to rationalize the dual system would be applauded by the donor community which, until recently, had to carry the costs of institutions of this kind. This clearly seems a rare case where, to use an anthropological image, one hut is better than two.

If SADC is to deepen this role, however, its secretariat will have to be strengthened. By its nature, security cannot be

considered as a traditional functional "sector" of SADC's work. That does not mean that the unique features of the front-line system will be lost. Those, like the present Chairman of the Association of Southern African States, Zimbabwe President Robert Mugabe—who helped create the first phase of the region's working security system—will have to help SADC become fully effective in the twenty-first century.

As the region changes, SADC needs also to reassess its terms of association and recast itself in the context of democracy. Of primary importance is the need for the SADC heads of State to make clear that membership of the regional "club" is only open to those who have committed themselves to democratic principles and practice.

Proposition six: drive, don't be driven by the concerns of outsiders

Outsiders have a poor reputation in southern Africa. As the record shows, they were often the agents of insecurity. For example, the former Prime Minister of Great Britain, Margaret Thatcher, opposed comprehensive sanctions and, instead, saw investment as the engine for change; in 1994, in contrast, she warned Western business against investment in South Africa.[22] In both cases, policies favouring the profit motive, which were in opposition to what the majority of the population wanted, prevailed. When such positions are espoused by prominent individuals, it is not surprising that suspicion of the North is rife. Outsiders are in a difficult position: they are damned if they try to get involved, and damned if they do not.

If outsiders are to play the opposite role in the future, they must eschew imposing their own ideas and ambitions and, instead, help the region to help itself. There are important things outsiders can do to build this peace system, such as

providing finance for the resettlement of demobilized soldiers or for the region's mounting refugee crisis, or providing material support for the lifting of the killer land-mines in Mozambique and Angola. Moreover, as Angola recently showed, outside troops are sometimes more acceptable as peace-keepers than are intraregional forces.

Outsiders can apply a variety of pressures as they did in the case of apartheid. They can take action to try and isolate a conflict, e.g., by helping neighbours and drawing lines. They can help limit the escalation of conflict by appeals and embargoes. They sometimes have the authority to sway local decisions one way or another in a conflict because of the calculations of the parties about the post-conflict situation. Despite present wariness towards outsiders, the latter's recent record in sub-Saharan Africa is not all negative. But certainly the guiding principle should be for the region to identify what might, or—more important—might not, be helpful.

Southern African governments should know that if people do not want to live together they will not, and outsiders cannot make them do so. The limitations of outside intervention were tragically exposed in the failure of outsiders—including the temporarily deployed French forces—to prevent the blood-letting that has passed for politics in Rwanda.

Making history work for the region

Underpinning the propositions I have just made is, of course, a set of values. Lasting partnership and cooperation—the essential ingredients in the building of international communities—are only possible between democracies. And democracies are only possible when plural choice, transparency and accountability underpin the political process.

In Swaziland, a traditional African kingdom in all but name, there are stirrings of a movement for democracy. In some countries of the region—Malawi and Lesotho are good

examples—the move towards democracy has only just begun. In others—Zimbabwe and Zambia—progress has become mired in personality; still in others—Angola, Mozambique and South Africa—the residues of deep conflict periodically stall the democratic process. In Botswana and Namibia—often held to be shining examples of multiparty democracy—social indicators suggest long-term dislocation that could threaten promising records.

The long-term security, which is necessary for both growth and redistribution in southern Africa, must begin by focusing on people, justice and change. The latter can only be made secure through the emancipation that accountable government and a vibrant civil society offers. The only road to emancipation, as Ken Booth has shown, is through (regional) community.[23]

The desire for liberation has been a powerful force in twentieth century southern Africa. There is no sign that its potency is waning.

The most dramatic event in the region's recent history, the ending of apartheid, was achieved as a result of the oppressed majority in South Africa and the people of southern Africa working together with the global forces that aspire to emancipation from racism. The processes of emancipation take many forms and operate at a variety of levels. The journey into the twenty-first century must begin with an identification of common interests. It must be nourished by the building of common identities and the spread of moral and political obligations. Those will provide the only dependable road-map to lasting security for southern Africa in the coming millennium.

Annex*

SADCC: In 1980, the front-line States initiated the formation of the Southern African Development Coordination Conference. The other members were Lesotho, Malawi, and Swaziland. Its primary objective was to reduce its members' economic dependence on South Africa. Owing to the political developments of the early 1990s in Namibia and South Africa, SADCC was reformulated in 1993 to become a regional economic union, the Southern African Development Community (SADC). Namibia and South Africa are now members. The political and economic goals of the organization are now oriented towards boosting the region's economic independence, building regional integration and mobilizing support for national and regional projects.

Association of Southern African States (formerly front-line States): In the late 1970s, five southern African States established a loose political front commonly known as the front-line States in response to apartheid's regional destabilization. They were Angola, Botswana, Mozambique, Tanzania and Zambia. After its independence in 1980, Zimbabwe also joined. Its main objectives were to resist regional aggression by apartheid and give solidarity to the liberation movements. Political developments in South Africa have rendered this group irrelevant. Conflicts are now handled by SADC, as the 1994 political crisis in Lesotho clearly showed.

SACU: The Southern African Customs Union is the oldest economic integration scheme in the region. Established in 1910 and re-negotiated in 1969, the Union comprises South Africa, Botswana, Lesotho, Swaziland and, since 1990,

**Compiled by Khabela Motlasa*

Namibia. It provides for free movement of goods and services among members through a common tariff. Customs and excise duties collected are paid into a Common Pool administered by the South African Reserve Bank. Revenues accruing to the smaller States are paid annually in proportion to the amount of goods and services that entered their borders.

COMESA: The Common Market for Eastern and Southern Africa was established in November 1993. It replaced the Preferential Trade Area for East and Southern Africa, created in 1981. The PTA aimed to liberalize trade, encourage economic cooperation and create a regional common market by the year 2000. COMESA has taken up those tasks. It is expected to bring about complete liberalization of movement of goods, services and capital and, eventually, a monetary union.

Notes

1 *Human Development Report 1995* (New York, Oxford University Press for UNDP, 1995), p. 200.

2 For instance, William Pfaff, "A new colonialism?", *Foreign Affairs*, vol. 74 (1995), pp. 2–6.

3 For instance, Martin Robertson, *The functional theory of politics* (London, London School of Economics, 1975).

4 This section borrows heavily from Ken Booth and Peter Vale, "Security in Southern Africa: after apartheid, beyond realism", *International Affairs*, vol. 19, No. 2, pp. 285–304.

5 The key work in broadening the concept of security is Barry Buzan, *People, States & Fear* (Brighton, Harvester Wheatsheaf, 1983, second edition, 1991).

6 R. H. Jackson and C. G. Rosenberg, "Why Africa's weak States persist: the empirical and the juridical in statehood", *World Politics*, vol. 35, No. 1, pp. 1–24.

7 Maxi van Aardt has argued for a philosophy of 'perspective of care and responsibility' to guide regional security.

See Maxi van Aardt, "In search of a more adequate concept of security in southern Africa", *The South African Journal of International Affairs*. vol. 1, No. 1, p. 85.

8 "Drought over southern Africa", *The Economist* (London, 29 April 1995).

9 Carole J. L. Collins, "Drought again threatens Southern Africa", *Africa Recovery* II, vol. 9, No. 1, p. 3.

10 Compiled by Robert Davies, "Perspectives on regional cooperation from South Africa's Mass Democratic Movement" (Bellville, Centre for Southern African Studies), CSAS Backgrounder Series No. 3, pp. 7–11.

11 Compiled by John Bardill, "Sources of domestic insecurity in southern African States: a conference report" (Bellville, Centre for Southern African Studies), CSAS Backgrounder Series No. 12, p. 59.

12 For the background, see Lynn Berat, *Walvis Bay: The last frontier* (Wynberg, Sandton, Radix, 1990). On the pressures towards the handover, see "All parties at talks urge Pretoria to yield on status of Walvis Bay", *SouthScan*, London, vol. 8, No. 32, p. 246. On the consequences of the handover, see "Deal secured with SA on Walvis Bay staff", *SouthScan*, London, vol. 9, No. 12, p. 95.

13 AFP Press Clips, 13 July 1995.

14 The following paragraphs are drawn from Peter Vale and Khabele Motlasa, "Beyond and below: the future of the nation-State in southern Africa", *Harvard International Review* (forthcoming).

15 This issue has been reported with great hysteria in South Africa. For example, *The Argus*, Cape Town, 2 September 1994, published an article on migration from Africa under the screaming banner headline "Alien's invasion".

16 "Electric fence may be extended", *SouthScan*, London, vol. 9, No. 39, p. 306.

17 *The Sunday Independent*, Johannesburg, 20 August 1995.

18 "Workshop Resolutions", SADC Workshop on Democracy, Peace and Security (Windhoek, 11–16 July 1994), p. 4.

19 Renfrew Christie, "One Bill of Rights and a single Court of Rights for all of Southern Africa" (Bellville, Centre for Southern African Studies 1994), Southern African Perspectives: A Working Paper Series, No. 39.

20 Peter Vale, "The Botha doctrine: Pretoria's response to the West and its neighbours", *South African Review Two* (Johannesburg, Ravan Press, 1984), pp. 188–197.

21 Speech delivered by President Ali Hassan Mwinyi of Tanzania to the Ministerial Committee of the Inter-State Defence and Security Committee, Arusha, Tanzania, 10 November 1994.

22 "Investors holding back, says Thatcher", *Business Day* (Johannesburg), 22 September 1994.

23 Ken Booth, "Security and emancipation", *Review of International Studies*, vol. 17, No. 3, pp. 313–326.

Towards a Subregional Agenda for Peace in Central Africa

Chungong Ayafor and Jean-Pelé Fomete

Central Africa has, of late, had the sad privilege of topping the charts in the hit parade of horrors, human bestiality and poverty, an honour that now appears to belong by right to the African continent. The world media giants, which are so fond of bloody images "made in Africa", have been focusing their spotlights on that legendary part of the continent known as the Great Lakes region. Unfortunately, there have been so many of those reports that, in order to express the unique mix of promises and perils implicit in the current situation in black Africa, many of the eminent participants at a first-ever White House conference on Africa were quick to draw parallels between the situations in South Africa and Rwanda.[1] Anthony Lake, National Security Adviser to President Clinton, seeking to illustrate the two contrasting images, spoke of the enthusiasm that South Africa elicits and the horror of the massacres perpetrated in Rwanda.[2] Taking up this Manichean image in his recent message to Africa and to the world on present-day problems in Africa, the Secretary-General of the United Nations concluded by saying that Africa disconcerts us

Chungong Ayafor is Minister and Director of the Office of the Prime Minister of Cameroon and was a member of the Advisory Board on Disarmament Matters. He is also Chairman of the Board of Directors of the Yaoundé International Institute for Peace and Security Studies.

Jean-Pelé Fomete is Managing Director of the Yaoundé International Institute for Peace and Security Studies.

because it is constantly giving us reason to swing from hope to despair. All too often it is the scene of ethnic confrontations and civil wars that compound economic misery and underdevelopment.[3]

While it is representative of the situation in the subregion, Rwanda does not have a monopoly on the perpetration of horrors, or even less so, hostilities in the area concerned. For there is a very real danger that what has happened in Rwanda will be repeated in neighbouring Burundi,[4] and Angola is struggling to overcome the effects of a painful war.[5] The rest of Central Africa continues to be throttled by centrifugal forces that fuel political frustration, economic stagnation and social injustice; all these things are undoubtedly helping to push the prospects for genuine sustainable development in the subregion even further into the future.[6] Here, more than anywhere else, it is becoming increasingly evident that peace is the vital foundation for the vast process of development.[7]

As the Rwanda tragedy has again demonstrated, now, more than ever, peace must be maintained by mechanisms devised to prevent crises and conflicts. The Rwanda tragedy is typical of the very great challenges to security that exist in the post–cold war period, and in that respect is a test of the ability of the international community, in general, and of African countries, in particular, to implement strategies to contain simmering conflicts before they boil over.[8]

The objectives of preventive diplomacy, as defined by Secretary-General Boutros Boutros-Ghali in his *Agenda for Peace*, are to prevent new disputes from arising and to ease tensions before they result in open conflict, or, when conflict does break out, to contain it. Preventing crises and conflicts in the subregion by promoting confidence-building, security, disarmament and development is one of the key elements of

the mandate of the United Nations Standing Advisory Committee on Security Questions in Central Africa.

This Committee—the first institutional African mechanism for preventive diplomacy, consisting of 11 African States,[9] which was established on 28 May 1992 by the Secretary-General of the United Nations pursuant to General Assembly resolution 46/37 B—will, unfortunately, have been conspicuous by its absence at a time when it might have been expected to give concrete proof of its utility. Unable to draw the international community's attention in time to the disaster of unprecedented apocalyptic proportions, which was brewing in the Great Lakes region, the Committee demonstrated just how sadly lacking it was in creativity and strength at the time of the deployment of the international peacemaking and peace-keeping operations in Rwanda and Burundi. We all know how urgent were the pleas that were emanating from the United Nations and France at that time. In reply, a few sporadic appeals for common sense were made to the parties involved in the crisis, issued in the form of press releases that were not widely circulated. Furthermore, none of the large-scale collective measures recommended by member States to deal with the situation—participation in international missions to the countries concerned; missions of solidarity to be sent to Angola, Burundi or Rwanda; missions to the Secretaries-General of the United Nations and the Organization of African Unity (OAU) to discuss the crises and conflicts in the subregion—were ever properly implemented.

Should we have expected more from the Committee? As scathing as this criticism of the achievements of so young an organ might appear in some respects, it should be pointed out that this criticism would not have been made, had not the working programme and final recommendations issued by various meetings of the Committee's internal organs been so ambitious.

Undoubtedly, the promises underlying the above-mentioned commitments evaporated when put to the test, owing to the absence or insufficiency of means, including of genuine political will, to act, on the part of the States in question. These questions call for a brief review of the Committee's mandate and of some of the constraints that may have made it difficult to carry out their mandate.

To seek to assess the Committee's role solely in the light of its activities relating to the recent crises and conflicts of the subregion would be to disregard to a large degree the significance of the fundamental work carried out within this organ; the results of this work can only be appreciated over time. One such achievement was the initialling on 8 September 1994 in Yaoundé of a Non-Aggression Pact that sought to unite the 11 member States of the Economic Community of Central African States (ECCAS). Not to mention the rich prospects created by the establishment by the States concerned within their armed forces of units specializing in peace-keeping operations; the establishment of an inter-State general staff committee for crisis management; the commitment of all States in the subregion to refrain from producing, acquiring or transferring weapons of mass destruction; and so on. This illustrates how significant a role the Standing Advisory Committee could play in the extensive restoration, building and consolidation of peace that must occur in the Central African region. Consideration should be given to the possibility of introducing the *Agenda for Peace* at the subregional level. The Committee has the capacity to pave the way for this large-scale undertaking that should transform Central Africa into a zone of lasting peace, security and development. This is far from being wishful thinking since, as we shall see further on, that is central to the global initiative of which the Committee is a part.

A plan long in the making

The idea of establishing an advisory committee on security questions in Central Africa was first raised on 28 November 1983 at the forty-first session of the United Nations General Assembly by the delegation of Cameroon. At that time, Cameroon, which occupied the chair of the Economic Community of Central African States, proposed the adoption of a series of measures to build confidence and promote security and development in the subregion, and requested the assistance of the United Nations to implement them.

The formal announcement by the Secretary-General of the United Nations on 28 May 1992 that the Committee had been established was preceded by the convening of two international meetings: the ECCAS Conference on the Promotion of Confidence, Security and Development at the United Nations Regional Centre for Peace and Disarmament in Africa, in February 1988, at Lomé, and a seminar-workshop on conflict resolution, crisis prevention and management for high-level civilian and military officials from ECCAS member States, held in June 1991, at Yaoundé. The establishment of the Standing Advisory Committee under the auspices of the United Nations was one of the major recommendations that emerged from this meeting.[10]

Welcoming the initiative taken by the African countries concerned, the General Assembly requested that the Secretary-General establish the body under consideration. As set forth in resolution 46/37 B of 6 December 1991, which constitutes the main legal foundation for the Committee's existence, the latter is aimed at "promoting confidence-building measures at regional and subregional levels in order to ease regional tensions and to further disarmament and non-proliferation measures at regional and subregional levels in Central Africa".

On the basis of this mandate, and with the support of the United Nations, the Committee got down to work immediately.

Ambition to match the challenges of the day

At the organizational meeting, which was held at the ministerial level, in Yaoundé, from 27 to 31 July 1992, the participants (ministers for foreign affairs and/or ministers of defence) established the Committee's rules of procedure[11] and adopted a very ambitious programme of work to be implemented in two main phases.[12] The programme focuses on a series of actions that provide for comprehensive, integrated and dynamic approach to the major challenges that confront the subregion. It covers three areas: peace, sustainable development, democracy and human rights. These three areas are central to the issues that justify joint action by a group of States that have understood that "Peace is a prerequisite to development; democracy is essential if development is to succeed over the long term. ... Without peace, there can be no development and there can be no democracy. Without development, the basis for democracy will be lacking and societies will tend to fall into conflict. And without democracy, no sustainable development can occur; without such development, peace cannot long be maintained."[13] In his *An Agenda for Development*, Boutros Boutros-Ghali underscored this interdependence by describing the dimensions of development: peace as the foundation of development; the economy as the engine of progress; the environment as a basis for sustainability; justice as a pillar of society; and democracy as good governance.[14]

This vision is all the more laudable in that it reflects the situation in the subregion, where the threat to peace and security of States is essentially non-military in origin; here "social injustice and the many woes caused by mismanage-

ment of the State and the iniquity of the international economic order" fuel the social explosions that periodically occur in the subregion.[15]

The Committee's programme of work seeks to execute the now familiar canons of the *Agenda for Peace* by providing for a series of measures focusing on preventive diplomacy, peace-building, peacemaking and peace-keeping.

Some of the following measures of preventive diplomacy were classified as needing to be implemented "during the initial stage of activities":[16] adherence by all States of the subregion to international legal instruments on arms limitation and disarmament; conclusion of a subregional non-aggression pact; establishment of hotlines between heads of State of the subregion and increased meetings between them; organization of regular joint meetings of ministers of defence, of the interior and for foreign affairs, as well as of chiefs of staff of the subregion; establishment and improvement of transparency in military activities, etc.

Among others, the following priorities were mentioned under peace-building measures: strengthening and consolidation of the democratization process and promotion of respect for human rights in the subregion; establishment of a crisis-management body in each member State; increased involvement of the people and the media in the pursuit of the ideals of peace, security and development in the subregion; elaboration of specific measures for promoting agreement on a balanced and gradual reduction of the military forces, equipment and budgets of the States of the subregion; and assistance in connection with the restructuring of armies and redeployment of the military.

The initiatives to be undertaken in the area of peacemaking and peace-keeping include the establishment of a standing inter-State general staff for crisis management with a view to setting up a subregional peace-keeping force. As

regards training, there are plans to develop cooperation with training institutions specializing in the field of conflict prevention and management of peace-keeping operations, with a view to establishing a subregional centre specializing in training peace-keeping personnel. These were some of the strategic and tactical priorities that the Committee was expected to translate into concrete activities.

Overall performance

When we assess the Committee's performance, we find that it has made a little progress, but that this is offset by many missed opportunities.

On the bright side

Adhered to the schedule of meetings

The Committee's first achievement is that it has kept its word and brought together high-level civilian and military experts and ministers of defence and/or foreign affairs of the States of the subregion every six months on average.[17] Those meetings, at which participants consider formal measures to build confidence and strengthen security, provide an opportunity for discussion and the fruitful exchange of views. Dialogue helps States to modify their views, avoid misunderstandings and increase the transparency of their activities.[18] In this case, the members of the Committee regularly exchanged views on concepts ranging from preventive diplomacy to joint defence and, more generally, ways and means of peacefully settling crises and disputes. In addition, the review of the geopolitical and security situation in the subregion, an item that is permanently on the agenda, enables officials to keep one another regularly informed of national issues and to work together to find solutions to shared problems.

That is a significant development in the diplomatic practice of the States concerned: the fact that all parties can

more or less freely ask one another how the internal political situation is evolving, without being accused of interference. Thus at its sixth meeting, which took place in Brazzaville in March 1994, the Committee invited the Governments of Rwanda and Burundi to create favourable conditions so as to ensure that refugees would be repatriated and to guarantee their security in their own country; it also noted with satisfaction the significant progress that had been made as regards both the democratization process and as regards the resolution of internal conflicts: the implementation of the Paris accords as far as Gabon was concerned; the holding of a national forum for the culture of peace in the Congo; the adoption and promulgation of a transitional constitution in Zaire; the review of the constitution in Cameroon and the adoption of a new constitution in the Central African Republic and in Equatorial Guinea.[19]

Those meetings have proved so useful that the Committee has expressed the hope that sectoral meetings will be organized. The relevant officials of the various countries (ministers of defence and the interior, chiefs of staff and so forth) have therefore been invited to meet as soon as possible in order to adopt or to harmonize policies for combating the illicit trafficking and proliferation of small arms both within each State and in the subregion.[20]

Concluded negotiations on the Non-Aggression Pact

Within two years of starting work, the 11 States of the subregion have equipped themselves with a legal instrument, establishing their determination to outlaw aggression. The text of the Non-Aggression Pact was adopted in Libreville and initialled in Yaoundé in September 1994. This led the Secretary-General of the United Nations to renew his support for the Committee. Speaking to the Advisory Board on Disarmament Matters in Geneva at its January 1994 session, he said that he was "in full support ... of the work of the

Standing Advisory Committee on Security Questions in Central Africa. ... Their non-aggression treaty should provide a model of a regional confidence-building measure".[21]

Conducted studies on future activities

In addition, notwithstanding the financial difficulties that they are all facing, member States of the Committee undertook to bear the cost of conducting a number of important studies on: the elaboration of a mutual assistance agreement with respect to defence; the establishment of a model national unit specializing in peace-keeping missions;[22] the typology of crises and conflicts likely to require the intervention of the subregional security mechanism;[23] and a proposal to organize a general staff committee for crisis management in the subregion.[24]

Two of the projects, concerning the typology of crises and the status of national units specializing in peace-keeping operations, were finalized and adopted at the Committee's sixth meeting. Chad, Equatorial Guinea and Zaire have already established those specialized units.[25]

On the dark side

In terms of the sort of achievements mentioned above, the Committee has demonstrated commendable farsightedness. However, even though the agreement among the States of the subregion to renounce the use of force in their relations is rightly considered to represent a significant political change, which deserves the support and encouragement of the entire international community,[26] the Committee has yet to take truly meaningful action in its field of competence. The members of the Committee have themselves recognized this and, at the Libreville meeting, the Committee instructed its Bureau to play a more active and dynamic political role in the future by initiating or associating the Committee with any action designed to promote the peaceful settlement of crises

and disputes in the subregion. The Bureau was also called on to undertake missions of solidarity and sympathy to States of the subregion caught in the grip of internal or inter-State crises and conflicts.

Given these early opportunities to demonstrate their ability to discharge their specific responsibilities, the successive Bureaus of the Committee have all largely failed. It was only with great difficulty and tardily that the Committee finally managed to express its indignation (and only in the form of a press release) and to stir consciences in the face of the atrocities committed. The unprecedented human tragedy in Rwanda, a member State, elicited just one or two public communiqués from the Bureau of the Committee.

It has proved impossible to organize missions of solidarity to Rwanda, Burundi and Angola, which the Committee has been calling for since the first half of 1994. Accordingly, the recommendations calling for their deployment, which are made at each successive meeting, have become largely symbolic.[27]

Moreover, the Committee has neither sponsored nor initiated any action to assist in the international missions currently under way in the affected countries. Such actions as have been taken have been few and isolated. They included material and financial support from Gabon, the dispatch of military contingents to Rwanda by the Congo and Chad, and the "natural" assistance of Zaire, which, by force of circumstance, has become a place of refuge. Hence there have been repeated appeals to the other States of the subregion to continue to express their solidarity with the Rwandese people in a practical form,[28] to follow suit,[29] or even to participate actively in UNAVEM III in Angola by making troops available to the United Nations and by continuing to support UNAMIR in Rwanda.[30]

There have been constraints

The human tragedies unfolding in the Great Lakes region have at the same time underlined the urgent need to put in place an effective preventive mechanism to forestall the recurrence of such horrors in any country of the subregion[31] and highlighted the difficulties that the Standing Advisory Committee has in playing such a role at this stage of its existence.

The cumbersome decision-making procedures in certain national administrations responsible for the follow-up of the Committee's activities, and the inability of the decision makers concerned to manage crises and conflict situations with the requisite speed and effectiveness, are, to a large extent, responsible for this situation and sometimes make one wonder whether sufficient political will exists.

In defence of the officers, it should be pointed out that there are acute communication difficulties between the various capitals of the subregion, and that these have often impeded the flow of information, thereby preventing the holding of certain planned consultations.[32] It is fair to say, however, that the members of the Committee take very little advantage of the numerous occasions for consultations offered by the many international diplomatic meetings.[33]

Grounds for optimism

One can only hope that the Committee will build on its experience and gradually rise to the challenges posed by the many and varied tasks that it is called upon to tackle in the subregion. There are good grounds for optimism about the Committee's future work. These include, *inter alia*, the effectiveness of certain elements of preventive diplomacy advocated in the Committee's programme of action, the support of the international community for their realization, the refusal by the young people of the subregion to take a

fatalistic attitude and, in particular, the clear emergence of national civil societies and public opinion in the subregion that identify with the Committee's concerns. Thanks to the Committee's efforts, the time is ripe for building peace and security in Central Africa.

The foundations of tomorrow

In order for the Standing Advisory Committee on Security Questions in Central Africa to effectively discharge its mandate in the future, a number of important actions consistent with the concept of preventive diplomacy that justified the Committee's creation must be initiated or consolidated without delay. In the views of many, an effective use of preventive diplomacy would be, in the present context, the least costly and most efficient way to build peace in Africa.[34]

Signature and ratification of the Non-Aggression Pact

It goes without saying that the signature—still awaited—and entry into force of this important juridical instrument would confirm the political will of the States concerned and strengthen the Committee's credibility. The parties' reiteration in a subregional context of their agreement to renounce the threat or use of force in their relations would have significant political consequences. It is therefore very hard to understand why the States in the subregion continue to postpone giving legal force to the Pact.[35]

It is particularly hard to understand since adoption of additional agreements, notably in the field of mutual assistance, could help to temper the appetite for war of certain other African States that share common frontiers with the member countries of the Committee. Thus, mutually freed from the suspicion and mistrust that are due to the current opacity of

their defence doctrines and the lack of transparency in their defence budgets, the countries concerned could better tackle the causes of their internal disputes, which are the commonest and bloodiest category of disputes in the subregion. For, although there are only a few countries that are currently in, or just emerging from, a state of open civil war, virtually all the other States in the subregion are experiencing low-intensity conflicts or, at the very least, situations of instability.[36]

The signing of the pact should be complementary to participation by the States of the subregion in the principal international legal instruments on the limitation of weapons, disarmament, peace and security.[37] With this in mind, it would be highly significant to give particular attention to agreements of immediate practical utility for the subregion. These include the Convention on prohibitions or restrictions on the use of certain conventional weapons which may be deemed to be excessively injurious or to have indiscriminate effects, to which no State in the subregion is yet party.[38] Here, as elsewhere, it would seem that there is not so much a need to draw up new texts as to get States to become party to those that already exist, and to apply them.[39]

It might thus be possible to get to learn more about the sort of things that give rise to conflicts, which threaten the cohesion of many States in the subregion, and about their impact on the current and future security and stability of the political society concerned. Establishing a mechanism to promote peace and security in Central Africa thus becomes an urgent necessity.

Towards a mechanism for peace and security in Central Africa

The main objective of such a mechanism should be to put in place an early warning system capable of detecting early signs of potential crisis. In Central Africa, as elsewhere, the

prevention of crises and conflicts requires a system capable of rapidly and effectively compiling and analyzing economic, social and political data, including data on the internal security situation of each State and of the subregion as a whole.

Before the tragic death of the heads of State of Rwanda and Burundi, in April 1994, few Western decision makers had a proper understanding of the forces opposing each other in this part of Central Africa and thus of the potential for disaster that existed. Had there been an appropriate early warning system in the subregion, it might have brought the tensions to the notice of the international community, which, even if it failed to contain them, clearly could have helped to prevent the full scope of horrors that subsequently took place in the subregion.[40]

Such an early warning system should permit the Committee to identify potential conflict situations as early as possible, to analyze them and to propose peaceful measures to deal effectively with them. The resources required to make such a promising project operational would still have to be mobilized so that the regionalization of crisis prevention (the Committee is one example of this) does not reflect at the security level the general marginalization of Africa.[41]

Both the media and civil society have a critical role to play in ensuring the success of this early warning system and in consolidating the other elements of the Committee's platform for action within the prevailing sociological realities.

Towards greater involvement of the media and the peoples of the subregion

The importance of this task, which the Committee itself has recognized as being a priority, is self-evident, especially when one considers the role of the media in easing or exacerbating conflicts and crises.

This involvement concerns first and foremost the African media and those of the subregion in particular. African media and journalists are best placed to play a significant role within the framework of an overall crisis prevention and management policy in Africa. The Western media have generally taken an interest in Africa only after a conflict has begun. Moreover, their treatment of information is superficial and usually has little to do with local concerns and realities.

The power of modern instruments of mass communication, such as radio and television, was illustrated with the use of the radio station "Radio Mille Collines" to exacerbate tensions in the Rwandan conflict. Yet it has also served to demonstrate the inverse of that experience, namely, that, "although the media are capable of incitement to hatred and confrontation, they can also be used (...) to teach the different communities of a country how to live together in peace".[42] The media could thus play a leading role in promoting habits of social peace, peaceful coexistence and democracy, thereby contributing to the development of a culture of peace in the subregion. Initiatives that draw inspiration from such a need could thus easily be pursued within the framework of the culture of peace programme launched by UNESCO in keeping with the recommendations of the *Agenda for Peace*.[43]

Towards a subregional culture of peace programme

Coming in the aftermath of crises, such a programme would help prevent the recurrence of such crises by creating the conditions for peace both objectively and in the minds of people. Efforts to disarm combatants, restoration of law and order, monitoring of elections and promotion and protection of human rights must be accompanied by the building of peace in people's minds. For there can be no peace without a culture of peace.

Actions that might be envisaged in this regard could involve tackling such crucial questions for peace in the subregion as the problem of the demobilization of the military. Today, Angola has only recently finished paying the price for its failure to demobilize, even though demobilization was provided for in the May 1991 Bicesse Accords. It was precisely because the non-governmental forces still had a strong army that it was completely unrealistic to think that a political solution could be found to the Angolan crisis that followed that country's multi-party elections in September 1992.[44] Although today, thanks to the Lusaka accords of May 1995, the spirit of peace seems once more to be hovering over Angola, the Government's army and the UNITA soldiers still have their weapons in hand.[45] In neighbouring Rwanda there remains the risk of rearmament of Hutu former soldiers and militias among the Rwandan refugees in Zaire.[46] The culture of war is very much alive.

Demobilization should therefore take account of such diverse aspects as the restructuring of the army and the retraining and reintegration of military personnel into civilian life, so as to ensure that weapons are exchanged for shovels and hoes.

The culture of peace concerns not only people but also political authorities at the highest level.

The people's involvement should take the form of an extension of the role of the social actors in the decision-making process, for building peace in Central Africa requires the emergence of a new form of citizenship in which the people become ever more active and take over increasing responsibility for the major choices taken by society.

Establishing the foundations of peace also requires a great deal of participation on the part of the highest State authorities, that is to say, first and foremost, the heads of State and Government of the subregion who, as we all know, play a

central role in national political systems. Unfortunately, they do not, as yet, seem to fully appreciate the role that the Committee can play in bringing about change. We have yet to see real evidence of any political will to turn the Committee into a real instrument for promoting peace, security and development. The experience with the draft Non-Aggression Pact illustrates this, as does the extraordinary lack of interest shown by the highest organ of ECCAS in the Committee's activities. We therefore understand why, reacting to the scant heed paid to its earlier appeals, the Committee went so far—at its session in the first half of 1995—as to urge its bureau "to bring the matter before the current Chairman of ECCAS in order to organize a meeting of heads of State and Government to encourage them to become more involved in the implementation of its programme".

In the absence of such determination at the highest level, even the boldest initiatives by other actors in the new subregional partnership for peace in Central Africa will be doomed to failure. It is therefore imperative that this situation be reversed. Only in that way will the region cease to be just a repository of myths about happiness and peace and cease to feed the illusions of the peoples of Central Africa.[47] The fate of numerous actions that could help breathe life into the agenda for peace and sustainable development, which the Committee has been trying to promote, depends on such a change in attitude.

Notes

1 Held in April 1994 in Washington, D.C., it was attended by an impressive number of African specialists who are working to help the Clinton Administration define the major directions of a new African policy for the United States.

2 Mr. Lake's statement was reproduced in Issue No. 823 of *Afrique Etats-Unis*, a magazine issued by the United States Information Service (USIS).

3 *Le Monde*, 19 July 1995.

4 Launching a solemn appeal for peace, tolerance and reconciliation to Burundians involved in acts of violence between the two communities, the United Nations Secretary-General invited them on 17 July 1995, in Bujumbura, to defeat the evil powers of darkness. *Le Monde*, 19 July 1995.

5 *Le Monde*, 18 July 1995, *Jeune Afrique Economique*, July 1995. See also the draft report to the plenary, sixty-first regular session of the Council of Ministers for Foreign Affairs of OAU, Addis Ababa, 23–27 January 1995.

6 Summary of the survey of economic conditions in the regions of Africa, 1993-1994, United Nations Economic and Social Council document (E/1994/54), p. 6.

7 As Secretary-General Boutros Boutros-Ghali so appropriately recalls in *An agenda for development* (United Nations publication, Sales No. E. 95. I.16) (A/48/935, 1994).

8 Anthony Lake, op. cit.

9 Angola, Burundi, Cameroon, Central African Republic, Chad, Congo, Equatorial Guinea, Gabon, Rwanda, Sao Tome and Principe and Zaire, all members of the Economic Community of Central African States (ECCAS).

10 The final document adopted by this meeting was published by the United Nations under the symbol A/46/307-S/22805.

11 The Committee decided that its rules of procedure shall be those of the United Nations General Assembly and that the officers (consisting of a Chairman, two Vice-Chairmen and a Rapporteur) shall serve a term of six months. See "Regional confidence-building measures", report of the Secretary-General (A/47/511).

12 Ibid.

13 Report of the Secretary-General on the work of the Organization (A/48/1), p. 1.

14 *An agenda for development*, op. cit., pp. 20–49.

15 Anatole N. Ayissi. *Le défi de la sécurité régionale en Afrique après la guerre froide : vers la diplomatie préventive et la sécurité collective* (UNIDIR publication, Sales No. GV.E.94.0.17), research paper No. 27 (1994), pp. 72 and 88.

16 This intentionally vague phrase was deemed preferable to a proposal to set precise time-limits for the realization of the activities mentioned.

17 The Committee thus met in ordinary meetings successively at: Bujumbura, Burundi, in March 1993; Libreville, Gabon, in August–September 1993; Yaoundé, Cameroon, in April and in September 1994; in Brazzaville in March 1995 and in August–September 1995.

By establishing, at its organizational meeting, an interval of six months between its ordinary meetings, the Committee sought to guard against the ossification that sets in on most African institutions that meet annually or at longer intervals.

18 *Study on defensive security concepts and policies* (A/47/394) (United Nations publication, Sales No. E. 93. IX.12).

19 United Nations report on the sixth meeting of the United Nations Standing Advisory Committee on Security Questions in Central Africa, Brazzaville, Congo, 20–24 March 1995 (A/50/474).

20 Ibid.

21 Boutros Boutros-Ghali, *The disarmament agenda of the international community in 1994 and beyond* (United Nations, 1994), p. 5.

22 The Congo and Zaire have been asked to undertake these two studies.

23 Study entrusted to Cameroon and Chad.

24 This project has been entrusted to Gabon.

25 See the above-mentioned report of the sixth meeting.

[26] See document A/47/511, p. 7.

[27] In its report on the sixth meeting, the Committee again recommended that the Bureau carry out a mission of solidarity to Angola, Burundi and Rwanda before the end of 1995.

[28] A/49/546.

[29] See report on the sixth meeting mentioned above.

[30] Ibid.

[31] Sammy Kum Buo, Secretary of the Committee, in his opening statement at the Committee's fifth meeting, Yaoundé, 5 September 1994.

[32] A communiqué issued at Yaoundé in mid-May 1994 was not received at Luanda until August, despite the kind assistance of the Committee secretariat in New York.

[33] Specifically in New York or Addis Ababa.

[34] See Anatole N. Ayissi, op. cit., p. 76.

[35] The pact was originally scheduled to be signed in Yaoundé, in April 1994, but at the last minute it was merely initialled. Signing was subsequently postponed to the OAU Summit of Heads of State or Government in Tunis where it was again postponed, this time, indefinitely. In March 1995, for the first time, a Chief of State, Pascal Lissouba, President of the Congo, took it upon himself to dispatch an emissary to his counterparts in Central Africa to collect signatures to the Non-Aggression Pact. (See report of the sixth meeting mentioned above.)

[36] Ibid.

[37] This is one of the activities included in the Committee's programme of work.

[38] See Anatole N. Ayissi, op. cit., pp. 106–107.

[39] Boutros Boutros-Ghali, "Human rights: the common language of humanity", opening statement at the World Conference on Human Rights, Vienna, 14 June 1993.

[40] That is the opinion of many observers, including Shawn McCormick in his address at the dinner-debate on the theme "Crises and conflicts in Central Africa: the role to be played by and the outlook for preventive diplomacy", organized to coincide with the work of the fifth meeting of the Standing Advisory Committee on Security Questions in Central Africa. The speaker is Deputy Director of the African Studies Program, at the Centre for Strategic and International Studies (CSIS), Georgetown University, Washington, D.C.

[41] Concerning the general question of the marginalization of underdeveloped areas of the world, see Jean-Christophe Ruffin, *L'empire et les nouveaux barbares; La rupture Nord-Sud*; Paris, Jean-Claude Lattès, 1991; Maurice Kamto, ed., *La marginalisation de l'Afrique* (forthcoming).

[42] See the statement made by Hassan Fall Diop on the role of the media in wars and armed conflicts, at the dinner-debate on the theme "Crises and conflicts in Central Africa: the role to be played by and the outlook for preventive diplomacy", organized to coincide with the work of the fifth meeting of the Standing Advisory Committee on Security Questions in Central Africa.

[43] See UNESCO, Culture of peace programme in El Salvador, September 1993.

[44] Shawn McCormick, op. cit.

[45] *Le Monde*, 18 July 1995.

[46] *Le Monde*, 26 July 1995.

[47] According to the formula used by René-Jean Dupuy in *La Clôture du système international. La cité terrestre* (Paris, PUF, 1989), p. 7.

The Scourge of Land-mines in Africa

Africa Battles a Plague

Dillah N'Dormadjingar

For a number of years now, everyone seems to be concerned about the problem of land-mines throughout the world, particularly in Africa. Why is there suddenly such interest in what is surely not a new phenomenon?

I believe that public opinion was alerted by humanitarian and non-governmental organizations, which realized through their daily contacts with the situation in the field that these lethal weapons are obstacles to any activities aimed at promoting the well-being of society. Since then, the widespread use of land-mines has been condemned. The African continent, which is beset by chronic underdevelopment, has also been affected by catastrophes: it is the continent most affected by mines. According to some estimates, 30 million of the world's 110 million land mines, or 27 per cent, are on African soil. Africa would have willingly done without such a dubious distinction. Should Africa, a continent that is underdeveloped as a whole, be doomed to stagnate despite the enormous assets that it possesses to ensure desperately needed economic development? Was the French agronomist René

Dillah N'Dormadjingar holds the rank of Lieutenant-Colonel in the Armée Nationale de Tchad (ANT).

independence, Africa made a false start? Why are there more mines in Africa than in any other continent?

I shall try to answer these questions by considering the use of land-mines, their consequences, and possible solutions.

The use of land-mines

Their justification

Initally, land-mines, whether anti-tank or anti-personnel mines, were designed to be used by the military for purely operational purposes. They were to be laid according to set rules (location, mapping, marking) by appropriately trained people so that, once the operation was completed, they could either be removed quickly without too much danger or destroyed.

From the military standpoint, mines are cost-effective. Indeed, their cost is very modest and they easily perform the tasks of several people.

Indiscriminate use

Nowadays, the above-mentioned rules are no longer observed. How did Africa get into such a predicament?

Following the end of the Second World War, the colonized countries began to demand their autonomy or independence using means that were not always peaceful. Wars of national liberation were fought throughout Africa. As a result, mines came into widespread use. Internal armed conflicts also broke out after the countries had gained their independence. The use of land-mines became more extensive, particularly during the wars of liberation in the Portuguese-speaking countries. Apart from a few countries, especially Egypt, the Libyan Arab Jamahiriya and, to a lesser extent Tunisia, which were affected by land-mines laid during the Second World War, most countries were affected as a result of the activities of armed liberation movements, civil war or

conflicts between two States over border issues (Chad-Libya, Ethiopia-Somalia).

In the course of these conflicts or wars, mines were employed widely. Mines, which used to be laid manually, can now be laid quickly on a large scale thanks to technological advances. Thus, large surface areas can be sown with mines in record time by means of aircraft or artillery. It would, therefore, be unrealistic under such circumstances to talk about specific plans for laying them, since many parameters have to be considered. Sometimes, depending on the prevailing weather conditions and the nature of the terrain, mines end up very far from the target areas.

The endemic civil wars in Africa have made the use of land-mines by untrained personnel commonplace. In these non-conventional conflicts, there are neither rules nor moral obligations. There are obviously no military advantages to be derived from such widespread and indiscriminate use of mines. Soldiers use mines during an operation with well-defined objectives in mind: protecting strategic points, denying passage through certain areas, halting the enemy's advance, and steering enemy forces in a specific direction or into a specific area in order to be able to better engage them or—briefly stated—forcing the enemy to change tactics. However, this advantage is limited in time and space. In such cases, it can be said that there are certain advantages in not using mines on a large scale. What purpose is served by dropping mines on non-military targets or on zones of no strategic value? Does this not represent a deliberate effort to kill large numbers of innocent people or the enemy with callous disregard? Is the driving force a desire for revenge or hatred?

The widespread and disproportionate use of land-mines, especially anti-personnel mines, by forces fighting in Africa verges on the intolerable. Such forces have usually not

been trained in the use of mines or do not apply in the field the training they have received, out of ignorance of, or contempt for, the relevant international conventions and treaties.

This indiscriminate and widespread use of land-mines can have only negative and extremely dangerous consequences. The consequences of their use for society, the economy and the environment will be considered below.

Consequences

Is the continent of Africa a victim of every conceivable catastrophe in the world? Africa has been afflicted by droughts, floods, locust invasions and endemic diseases or pandemics such as AIDS, and to complete the picture, we now have mines.

Like the other scourges, mines strike indiscriminately, and their primary victims are innocent and defenceless women and children.

Since military operations generally take place in the countryside, their victims are the rural population.

Given the illiteracy rate in Africa, even when minefields are marked the villagers are drawn to the markers out of curiosity, not understanding that they have been placed there to warn them of mortal danger.

As noted above, the main victims are women and children because they are the most active members of society. Women perform certain farming chores and look for firewood to cook food for their families. The children take the animals to pasture. As documented by written testimonies and photographs, women and children are the most exposed to danger.

For many years the World Health Organization has been pumping enormous material, human and financial resources into its fight to eradicate specific childhood and incapacitating diseases. For example, vast vaccination cam-

paigns against poliomyelitis are organized in every African State affected by this disease.

It is therefore paradoxical that efforts are being made to save individual lives while weapons that destroy those very lives continue to be manufactured.

The impact on society

Mine victims, if not killed outright, may have limbs amputated or lose their sight. In short, they may be disabled for the rest of their lives. They will, henceforth, depend on others to survive, being unable to provide for their own needs. They therefore become a burden on society. African solidarity dictates that no family can or should reject one of its own when stricken by misfortune. But the price of such solidarity is high when we consider the poverty in which practically the entire African populations lives. The injured persons themselves live a life of trials and tribulations; they feel debilitated and excluded from society. They suffer not only physical trauma owing to their wounds, but also suffer psychological distress.

A cure may involve lengthy and expensive care. (I speak with full knowledge of the facts since I myself sustained a serious mine injury. I needed almost two years and no fewer than five operations before learning to walk again.)

Once cured, the victim must be fitted with an artificial limb, the cost of which is prohibitive even for those on a moderate income. Moreover, artificial limbs need to be replaced fairly often, particularly in the case of growing children.

In a situation such as this, what is a family supposed to do when it is destitute, as is usually the case? It is an additional burden on people who face a daily battle for survival. Since our governments are similarly destitute, it is left to international organizations such as the International Committee of the Red Cross to try to help these thousands of unfortunate

individuals. In other words, society pays a heavy price for other people's stupidity.

The impact on the economy

I have just described the terrible effects of land-mines on people. What are the economic consequences?

In certain regions affected by this scourge, whole tracts of land are closed to any activity (for example, livestock farming, agriculture or commercial use). In these areas it is common to hear of famine, which has not necessarily been caused by drought or locusts. The fact is that the people living there no longer have access to the land where they used to eke out a living. They are forced to rely on hand-outs because they are unable to provide for themselves. Appeals are therefore made for international food aid and other assistance to relieve the sufferings of these victims of disaster.

With regions isolated from one another, with livestock farming and agriculture out of the question and commerce curtailed, practically no economic activity remains. The outcome is either paralysis or asphyxia.

In order to redevelop these blighted regions and make such activities viable again, they must, first of all, be cleared of mines. The most striking fact is the extremely high cost of these operations, not only in financial terms, but in material and human terms as well. It costs between $30 and $100 to buy a mine, but clearing one costs between $300 and $1,000. In the case of a manually laid mine, a single individual can perform the task, and even when mines are scattered from an aircraft, a single pilot is all that is required. At least two people are needed to neutralize or destroy a mine.

How many mine-clearance officers, even the most experienced, have lost their lives during such operations? This is a high-risk activity.

Since Africa does not possess the financial or material resources to tackle this work on a large scale and has very few de-mining specialists, it must once again look elsewhere for assistance. International aid will initially have to be used for mine clearance rather than for socio-economic development. If this situation continues, the outlook for potential economic and social development is very bleak.

We cannot, however, have our cake and eat it too.

If waged by armed force, including land-mines, power struggles waste time and retard economic growth, and the gulf between the black continent and the rest of the world will become even wider. An economy can only develop in a healthy natural environment, which is not the case in Africa, where land-mines have had such an impact on the natural environment.

The impact on the environment

A few years ago we witnessed a surge of environmentalism. This movement has now reached Africa. Generally speaking, its watchword is the defence and protection of nature. There has been much discussion of the harmful effects on man and nature of industrial waste, chemicals, radioactive materials and nuclear tests (Greenpeace is currently campaigning against the resumption of French nuclear tests). An extensive campaign is under way to stop forests from being cut down, in particular, the Amazon rain forest, which is regarded as the world's lungs. But the topic of land-mines has scarcely been addressed. A few organizations are showing interest in the issue. If we are all striving to make nature wholesome so that mankind can live, flourish and die a natural death, why are land-mines, which often cause irreparable physical and psychological damage, not being given serious consideration in these various campaigns and by all organizations advocating the protection of nature? Land-mines are also major pollutants. Not only do they kill and maim, but by their very

presence they prevent people from working and thus feeding themselves. No other form of pollution could be more dangerous.

Given the scale of this disaster, should we despair and do nothing? Are there solutions that make it possible to combat this scourge? This is what we shall attempt to explore in the next section.

Possible solutions

Humanitarian mine clearance

Large-scale humanitarian mine clearance will have to be initiated. As I have already stated, such an operation will require significant financial, material and human resources—resources which no African State can muster. Once again, the assistance of the international community will be sought. This will admittedly take a long time, but it is absolutely necessary in order to enable populations affected by this phenomenon to go about their normal business with a view to meeting their own needs. Of all the techniques used in mine clearance, manual clearance is currently the most reliable.

The only drawback is that it is slow, which is why I say that the operation will take a long time.

In addition, as much information as possible will be required on the location of the mines earmarked for clearance in order to ensure the effectiveness of the operation.

Restricting the use of mines

Unfortunately, very few African States have acceded to the 1980 United Nations Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects, or ratified the Protocols thereto. As the region that has borne the brunt of this scourge, Africa

ought to have taken a keen interest in this Convention, which, though incomplete because it lends itself to a variety of interpretations, is none the less a basic document that lays the groundwork for restricting the large-scale, indiscriminate use of land-mines.

In order to prevent senseless death and suffering among the civilian population, a clear distinction must be drawn between military and non-military targets, and the use of mines must be proportional to the real danger involved. Mines should be laid according to set rules in order to facilitate their subsequent removal and to avoid needlessly jeopardizing the lives of civilians. To that end, all States, whether or not they are directly affected by land-mines, should agree to include instruction on international humanitarian law in their military training programmes. This would serve to inform and raise the awareness of military personnel, who are the primary users of these engines of death.

To escape from the present situation, which appears to be at an impasse, African States have no choice but to accede to the 1980 Convention, which provides in one of its articles that any State party may propose amendments. In view of the threat that land-mines pose for the population, the economy and the environment, Africa can no longer remain on the sidelines.

Is restricting the use of mines the only option available to humanity, and could it be of some benefit to Africa, or are there other possibilities? Below are further considerations in this regard.

Stopping production

The low purchase price of land-mines, which reflects the very low cost of producing them, casts doubt on whether these weapons are of economic significance. The possibility

of outlawing mines should be considered, particularly in view of their extremely adverse effects.

If chemical and bacteriological weapons have already been outlawed, and nuclear weapons may soon be too, since all are considered weapons of mass destruction, why should mines, which cause as much harm as these other weapons, be excepted? Is it because their effects are less shocking, given that they kill or maim dozens of people not *en masse*, but in widely separated areas? There are grim statistics showing that mines kill and mutilate thousands of people every day throughout the world. In that case, should they not be classified as weapons of mass destruction?

The production of these deadly devices could be stopped if all available means of information and consciousness-raising (the press, radio and television, seminars, symposia, etc.) were used to alert the international community to the danger posed by mines. Although this would be a long-term effort, one must never give way to discouragement. Certain measures that have already been proposed, such as the manufacture of mines that self-destruct after a given period of time, are mere palliatives. They would not solve the problem because, in the interval between the laying of the mine and its self-destruction, a person could inadvertently set it off and be killed or seriously injured.

World-wide pressure as a result of such information and consciousness-raising would undoubtedly prompt the countries and enterprises that produce these weapons to review their economic policies. The problem must be attacked at its root. This approach can be compared to that of a doctor whose patient has a high fever. Which should be treated: the fever or the condition that causes it? Undoubtedly, the doctor will begin by making a diagnosis to determine why the patient has a fever. In the light of that diagnosis, the doctor can prescribe a suitable treatment for the illness.

A similar approach should be taken to the problem of land-mines. The destruction wreaked by mines in Africa is a symptom, the causes of which are the use of mines, their production and the existence of large stockpiles. It is necessary not only to stop production, but also to convince the holders of these stockpiles to destroy them. This is not an unattainable goal, given that the international community has already succeeded in stopping the production of chemical and bacteriological weapons, except in a few countries that continue to violate this ban.

A firm commitment on the part of the international community to prohibiting the use, production and stockpiling of land-mines is the only means of ridding the world in general, and Africa in particular, of these engines of death.

Conclusion

As a result of wars of liberation and armed conflicts within and between States, Africa is more infested with land-mines than any other continent. The toll they take on socio-economic development is heavy indeed.

Countries such as Angola, Mozambique, Ethiopia, Somalia and Chad, which are severely plagued by the phenomenon of land-mines, will find it hard to implement development programmes in mine-infested parts of their territory.

Experience has shown that the large-scale, indiscriminate use of land-mines has extremely serious consequences for human beings, the environment and the economy. Moreover, the danger has increased with the development of new technologies capable of making these artefacts undetectable, reducing their size and disguising them as harmless objects (e.g., toys, everyday items such as flashlights or ball-point pens). Sometimes they are equipped with anti-

handling devices. No one, then, is safe from the danger they pose.

This situation is undoubtedly alarming. However, there is a ray of hope: awareness of the problem is beginning to spread. A number of organizations and societies are taking an interest in the issue. Indeed, it has become virtually a topic of public debate. This is encouraging to those who first sought to alert public opinion to the danger represented by land-mines, and also to those who are, or will be, joining the movement to restrict the use of mines or, preferably, to ban their production and to destroy existing stockpiles.

The parties to the 1980 Convention on Certain Conventional Weapons have begun to take steps to strengthen Protocol II, on land-mines. However, in spite of lengthy preparation by governmental experts, the Review Conference of the Convention, which was held from 25 September to 13 October 1995 to consider amendments to the Protocol, was not able to reach a decision at that time and is scheduled to resume negotiations in 1996.

The struggle will certainly be long and arduous, and will require much courage and patience. The battle for a ban on the use of chemical and bacteriological weapons has already been won. Some countries are in the process of destroying their stockpiles. Why should it be impossible to achieve the same with respect to land-mines?

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Disarmament Education in Africa

The IAUP/UN Commission Experience

Leland Miles

The International Association of University Presidents, together with the United Nations Centre for Disarmament Affairs, established in 1991 the IAUP/UN Commission on Disarmament Education. It consists of 200 scholars, university presidents, government officials, military officers, diplomats, and representatives of other professions, organized by teams. The Commission's mandate is to expand the teaching of peace and disarmament, especially in developing countries. The ultimate aim is to build constituencies for arms limitation throughout the third world, as a prelude to economic and environmental improvement.

During 1991-1992, the first year of its existence, the Commission invited some 30 scholars from 25 universities in ten countries to address the status of academic arms control world wide. From these presentations we concluded that the teaching of disarmament was limited largely to the West. Even

Leland Miles is Chairman of the International Association of University Presidents (IAUP)/United Nations Commission on Disarmament Education and Chief of the IAUP Mission to the United Nations.

in the West, however, the material taught was obsolete, because it was based on a superpower confrontation which no longer existed. The Commission therefore decided to develop new curricula based on the current realities of regional conflict, and to seek the adaption of such curricula among third world institutions.

After two years of assigning scholar teams, developing new educational material, and disseminating that material world wide, the Commission began in spring 1994 to work with 14 pilot institutions which soon grew to 36 universities in 21 developing countries. These institutions are committed to adapting the Commission's material to their own regional, cultural, and curricular needs. This effort now involves 16 mentor/scholars working as partners with almost 50 host professors from Asia, Africa and Latin America. So far these partnerships have produced 42 new disarmament courses for 1300 students, with 60 courses involving 1800 students projected for fall 1996. These numbers are conservative, because some of the "courses" are multi-course degree programs, and some of the "institutions" are multi-member consortia.

The Commission's activities have been funded by a variety of sources, including the Samuel Freeman Trust, the W. Alton Jones Foundation, international donors, the United States Institute for Peace (USIP), and the United States Arms Control and Disarmament Agency (ACDA). A recent second grant from USIP has permitted expansion of the Commission's curricular efforts to the Middle East. For data on the Commission's worldwide activities, including the countries involved, see Annex I.

Zambia: the public system and "surrogate replication"

The IAUP/UN Commission's role in Africa is expanding rapidly. One of the leaders is Joseph Kalunga, President of Evelyn Hone College in Lusaka, Zambia. He is also Chairman of Zambia's 16-member public college consortium. These institutions offer three-year diploma programmes in technical and vocational fields like business administration, engineering, nursing, and accounting, as well as more general programs in the social and natural sciences.

Dr. Kalunga was one of twelve "students" at the September 1994 IAUP/UN International Seminar on Arms Control and Disarmament at Juniata College. Like the other students, he heard a presentation on the Commission's curricular project, and received outlines and later the full curricula of the disarmament modules developed by the various Commission teams. He returned to Lusaka, digested these materials, transformed them to meet the needs and culture of his country, and then proposed that his government approve a common three-year programme in peace and disarmament for the entire 16-member public college system.

The Government not only approved, but joined Dr. Kalunga in planning a workshop for spring 1995, as a preparatory step toward introducing the program the subsequent fall. The workshop was sponsored by the Government's Department of Technical and Vocational Education, working jointly with the public system's lead college, Evelyn Hone. This event brought together an impressive array of political leaders, military officers, human rights advocates, and educators, all of whom contributed to the development of a three-year required curriculum for all public college students regardless of academic major. The three-year peace requirement will be in place throughout the 16-member public system by 1997.

A two-semester course entitled "Peace and Disarmament Studies", which comprises the first year of the sequence, has already been introduced. Its chief aim is to enable students to understand peace and security as a prerequisite for economic development. Among the topics included are: definition of peace and war; the relationship of peace to development; factors affecting regional peace, e.g., political climate, economy, international relations; Zambian and international politics, including international organizations and treaties; the nature of democracy, in theory and in Zambia; economic reform in Zambia and internationally; history of the cold war, including the arms race, nuclear proliferation, and arms transfers to the third world; emergence of arms control and its current status; and conflict resolution, including applications to non-military conflict caused by trade unions, the church, and other pressure groups.

This course and the material to be introduced later in the second and third years of the public college curriculum replaces a former Marxist-oriented requirement. Given the leadership of Dr. Kalunga, who recently moved to the Zambian Education Department, it should be possible eventually to move parts of this sequence into other east African universities, especially in Kenya and Tanzania, where the Commission already has a foothold in medical schools. Zambia thus illustrates the Commission's initial efforts to achieve "surrogate replication"—that is, to move the "action center" away from the Commission and toward strategically located institutions in specific regions.

Kenya: medical schools and the modular approach

By no means is Zambia the only African star in the Commission's firmament. Among the earliest institutions to get involved were Moi and Nairobi Universities in Kenya. In

September 1995, Moi introduced disarmament material for its second and fourth year medical students. Each of the original classes had about 40 students, one of whom was assigned to attend the International Physicians for the Prevention of Nuclear War (IPPNW) conference in Manila on children and war. Beginning in October 1995, Nairobi University integrated similar material into its teaching programme for behavioural sciences (first year) and psychology/psychiatry (third year). Each of the original classes averaged 100 students.

In making these advances in medical education, these two African universities drew from the Commission's "Medicine and Peace" curriculum, developed by a team headed by Dr. Victor Sidel of Albert Einstein College of Medicine at Yeshiva University. Dr. Sidel is also President of IPPNW. This curriculum, appropriate for all types of health science colleges, features 18 modules (2-5 week units) which can stand alone, be inserted in other courses, or be sequenced to form one or more new courses or even a new program.

Among these are modules on medical ethics and war, the role of health professionals in the prevention of war, and a sequence of four modules on nuclear weapons: nature and threat, short-term health effects, long-term health problems of survivors, and environmental consequences. Other modules include health consequences of chemical, biological, and conventional weapons; psychological consequences of the arms race; and underdevelopment (poverty and hunger) as both consequence and cause of the arms trade. Each module contains a detailed substantive outline accompanied by extensive readings and issues for student discussion. For a sample of the Dr. Sidel modules, see Annex II.

The modular approach recognizes that in academia, and especially in medical and other professional schools, the introduction of any new material is difficult, and likely to be

opposed by the individual professor, his department, and/or a university curricular committee. This approach provides a psychological and "political" solution to such opposition. To start with the introduction of one or two modules into an already existing course is not threatening to the individual professor, and does not require departmental or committee approval.

In fact, the typical Commission "partner institution" begins with one or more orientation workshops for faculty, then cautiously integrates a few Commission modules into already existing courses. Once students are receptive and faculty comfortable, the institution moves more boldly toward a full-fledged course, created by linking interrelated Commission modules. At first this course is made elective, then later required. Ultimately, the more venturesome universities take the leap to multi-course degree programs at the baccalaureate or master's level.

The merits of the modular concept are illustrated by Moi University in Kenya, where for some years a conventional medical course had been taught in "Injury and Trauma". After becoming a host professor for the Commission, Dr. Peter Nyarang'o, now Dean of the Medical School, continued to maintain the title and broad outline of this course. But he changed the substance dramatically by introducing IAUP/UN modules on the health impact of nuclear, biological, and chemical weapons.

South Africa: Potchefstroom University and course evaluation

The Commission soon expects to utilize the modular approach to introduce disarmament material into one or more of the medical schools at Cape Town, Witswatersrand, and Natal Universities. As elsewhere, the aim will be to adapt Dr.

Sidel's disarmament material to regional, cultural, and curricular needs.

However, the Commission's main effort in South Africa has been in partnership with the political science or history departments at Rhodes, Potchefstroom, and Bophuthatswana Universities. Among these three institutions, during the period September 1994 through February 1996, five peace and disarmament courses have been developed and taught. The material for those courses has been drawn largely from a curriculum developed by a team headed by Professor Steven Spiegel of the University of California, Los Angeles (UCLA), a master teacher whose text, *World Politics in a New Era*, has been widely used both in the United States and abroad. In contrast to Dr. Sidel's assignment, Professor Spiegel's team developed new material linking peace studies with security studies, and intended for undergraduates in the social sciences.

The Spiegel curriculum, which is still evolving and in which UCLA graduate students played a significant role, contains 15 modules grouped around four themes: *causes and management of conflict* (peace studies and conflict resolution); *weapon systems* (nuclear arms, chemical/biological weapons control, conventional arms control); *regional activities* (Middle East, Latin America, south Asia, east Asia, Europe, and eventually Africa); and *arms limitation factors* (UN and other international institutions, domestic influences, impact of military on environment, economics of arms control, and arms transfers/trade). For a sample of the Spiegel modules, see Annex III. Given the space limitations in this journal, this sample includes only the first four pages of an eight-page module.

The experience at Potchefstroom University illustrates what can happen when the "chemistry" is right between the Commission-appointed mentor (in this case Dr. Spiegel

himself) and the host professor abroad. Professor Johann Kirsten, a former South African commando officer in Angola, was one of twelve southern African scholars invited to the Commission's International Disarmament Seminar at Juniata College in Pennsylvania in September 1994. Inspired by that crash course in disarmament issues, he began planning a disarmament course upon return home. In May 1995, he was one of seven outstanding host professors invited to participate in a Commission Symposium on "Education for Global Security", in honour of the 50th anniversary of the United Nations. While in New York, he and Professor Spiegel held several one-on-one meetings, out of which came the "Kirsten Bibliography"—a list of the books most urgently needed to teach a quality disarmament course.

In August 1995, Professor Kirsten launched his twelve week undergraduate peace and disarmament course under the title "Conflict and Order in World Politics". He drew heavily from Dr. Spiegel's module "Arms Control and Nuclear Weapons", as well as modules on other weapons of mass destruction, origins of war, conflict management, and the role of the United Nations in addressing conflict. The course featured two examinations and a required paper analyzing one recent war such as Vietnam or Iran/Iraq, the changed environment for the United Nations, or the recent French nuclear tests.

Each pair of mentor/host professors is asked to follow a 12-step process entitled *Guidelines for Partner Institutions*. Step 10 is the teaching of the course, and Step 11 is evaluation. In December 1995, Professor Kirsten submitted his and his students' evaluation of the course. Among the student comments were the following: "The problem of nuclear weapons becomes very real in [our] study of international politics—perhaps too real!" "I believe conflict management is one of the most important activities in today's world." "The

United Nations has, in the absence of a bipolar world, played an important stabilizing role in international relations."

In providing an evaluation to the Commission, the host professor is asked to identify weaknesses in the initial course, how on that basis he intends to revise the material, and his plans for further teaching at his own or a neighbouring institution. In Kirsten's case, the revisions will include more emphasis on conventional, chemical and biological weapons; economic consequences of arms control; the non-nuclear use of missiles; and especially Spiegel's module on "Arms Proliferation, Transfer, and Trade". Professor Kirsten will repeat the course, revised, in August 1996, and is considering an eight-week graduate course using Dr. Spiegel's modules "Peace Studies" and "Conventional Arms Control". He also plans to exchange course material with other Commission partners in South Africa.

South Africa: Rhodes University and "library enhancement"

The situation at Rhodes University is different. Unlike Professor Kirsten, the converted commando, the political studies faculty at Rhodes is sophisticated and experienced in the field of security and related studies. In 1995 they ran a full semester course in peace and conflict for master's and honors students, and are planning to offer a similar course in 1996. Their syllabus was well received, but in their own words, "our library resources in this area remain underdeveloped, largely due to financial restraints under which we operate".

For Rhodes and similar institutions, the IAUP/UN Commission has embarked on an ambitious "library enhancement" program. It involves the xeroxing and mailing of articles by team leaders, the use of "suitcase libraries" by mentors as they visit overseas campuses, and modest cash

grants to host professors, who can then purchase books and journals in their own country, directly from western publishers, or request Commission team leaders to make the purchases for shipment to them. In this latter case, the grant is expended in the United States, less costs for postage, shipments, and FedEx.

Meanwhile, the United Nations Library and Publications Division, together with the United Nations Centre for Disarmament Affairs (UNCDA), has agreed to send relevant United Nations publications to our overseas scholars on a roughly quarterly basis. The first such shipment, on a pilot basis to twelve host professors, was made in early July 1995. It consisted of Secretary-General Boutros-Ghali's *Agenda for Peace*; three volumes on nuclear weapons, environment, and sustainable development; and two training manuals on peace-keeping and peacemaking.

The first UNCDA shipment, made in August 1995, included current and past copies of the Centre's *Newsletter*, the journal *Disarmament*, and a backlog of materials now filling CDA closets. Although such materials might be obsolete to a United Nations officer or western scholar, they are prized resources for most third world professors. Moreover, such shipments open up a whole new audience of opinion-makers for the United Nations.

Similar arrangements have been made with the United Nations University in Tokyo, the Non-Governmental Organization (NGO) Committee on Disarmament in New York, and ACDA in Washington. The latter is sending their quarterly *Readings*, four volumes on nuclear, biological, and chemical weapons, and their annual publication on the status of world armament. As of January 1996, all 50 host professors will begin receiving these materials.

In short, the Commission is moving vigourously to consolidate its gains by converting the current experimental

disarmament courses to "permanent" offerings. To accomplish this conversion, we obviously seek to "strike a deal" with the various host professors and their department chairs or deans. In effect, we offer to make significant improvements in their library holdings in the disarmament field, if they in turn commit to formally evaluating the course or program, revising it as necessary, including it in their catalogues, and offering it, at least in alternate years, for the next six years.

Given the considerable weakness of third world campus libraries, this offer is being enthusiastically received. The enthusiasm will increase as we gradually turn toward technology, especially the Internet, to expedite these efforts and to deliver the materials in a more timely fashion.

Nigeria and Cameroon: failure vs. success

Africa reflects most of the problems involved in any attempt to introduce western-initiated disarmament education into the curricula of third world universities. Among those problems are: communication difficulties such as non-working or non-existent fax machines; cultural differences, especially in the concept of timeliness; leadership transition—typically the retirement or removal of a supportive rector; inadequate resources of either faculty or library; lack of material relevance (e.g., in east Africa, land mines cause more anxiety than nuclear threats); and political instability, which often takes the form of civil war or military dictatorship.

Where the instability is lessening, as in South Africa, it can actually be a positive force. In the post-apartheid era, South Africa universities are now anxious to rejoin the world family, and free at last to pursue peace education and research. Where the instability is increasing, however, or is at or near its peak, conditions arise which make it almost impossible for the Commission to work with a partner institution. When faculty

are intimidated and even fear for their lives, the atmosphere is not conducive to teaching peace and disarmament.

A tragic example here is the University of Ibadan in Nigeria, which originally intended to establish an interdisciplinary disarmament team from sociology, medicine, and political science. However, as communication with Ibadan has become impossible, we have placed the institution on hold, and have diverted our efforts to the International Relations Institute in more stable Cameroon (IRIC). The mentor for this latter project is Ivor Richard Fung, currently the United Nations Department of Political Affairs' political adviser to the peace processes in Mali and the Niger. Under Dr. Fung's guidance, and with the assistance of the IAUP/UN Commission, the IRIC hopes to explore relations with the nearby University of Yaoundé and one or two other institutions in Chad or Gabon; improve its library holdings in the disarmament field; and develop a graduate seminar in peace and disarmament for diplomats from Central Africa.

Given the various problems in intercultural adaptation of disarmament education, no one would have thought that so much progress could have occurred so fast. Why are an increasing number of third world faculty and students attracted to the Commission's material? There are many answers, but only a few are presented here. First, little could have been done without the financial help of foundations and agencies. The unprecedented grant of US$100,000 from the United States Arms Control and Disarmament Agency in 1994 vastly increased both the thrust and scope of the Commission's efforts. Second, curricula in developing universities are still in flux, providing considerable opportunity for academic innovation.

Also, unlike prior disarmament syllabi based on superpower confrontation, the IAUP/UN Commission material focuses on regional conflict, conventional arms, the

arms trade, dangers of nuclear proliferation among small countries, emergence of biological and chemical weapons in the third world, the health and environmental impact of such weapons, peace economics and defense conversion, relation of peace to economic and environmental improvement, civilian control of the military, peace-keeping techniques, preventive diplomacy, and confidence building.

These regional themes, taught to successive classes of students, can help build an academic, and then a political, military, and civilian constituency for arms limitations, which are the *sine qua non* for achieving social justice in developing countries. Small wonder then that third world faculty and students regard the IAUP/UN curricula as an opportunity to positively influence the future course of their countries, and to improve the quality of life for their people.

Mozambique, Malawi, Zimbabwe: the IAUP/UN Seminar

Apart from the previously discussed modular approach, however, the chief factor in the Commission's curricular success to date has been the International Seminar on Arms Control and Disarmament (ISACD), conducted annually by Juniata College's Baker Institute for Peace and Conflict Studies at its Williamsburg, Pennsylvania retreat center.

In return for free tuition, room/board, and even selective travel aid, scholars invited to the seminar are expected to return home and replicate what they have learned. Follow-up mechanisms help to assure that such expectations are realized. To appreciate how the Seminar works, let us look at the September 1994 session for young scholars from southern Africa.

Twelve scholars from six countries were invited to this session. The institutions represented were Evelyn Hone

College from Zambia; the Institute of Graduate Studies from Mozambique; the University of Zimbabwe from that country; Chancellor College from Malawi; and Western Cape, Cape Town, Fort Hare, Bophuthatswana, Natal, and Potchefstroom Universities from South Africa. Also included as a regional "foil" was a scholar from the University of Annaba in Algeria, who later fled to Paris to escape terrorist danger in his own country.

These twelve academicians were almost evenly balanced between whites and blacks, with mixed pairs in each room. Among them were several former government officials and military officers, including a retired colonel who had commanded the Mozambique Air Force. Their academic fields ran the gambit from history to physics, and included mathematics, conflict resolution, peace economics, political science, war and strategic studies, international relations, law, commerce, military technology, and applied arts. One scholar, just returned from a sabbatical abroad at Cambridge University, was a research associate in economic planning for the African National Congress. He also represented the Military Research Group in Johannesburg, which was seeking to develop a structure and policies for the post-apartheid South African army.

The lectures and discussions conducted by a distinguished faculty included such general topics as the United Nations and other agency effectiveness in arms control, major power roles in global security, international regimes banning weapons of mass destruction, alternative security measures, non-violent action and democratic culture, and "agreement building"—i.e., negotiation, mediation, and conflict resolution. The programme also included topics especially relevant to Africa: the African nuclear-weapon-free zone; the disarming of private armies and criminal gangs; the role of Africa in the 1995 Review and Extension Conference of the Nuclear Non-Proliferation Treaty; the prospects for regional arms

control in north Africa; the consequences of anti-personnel mines in Mozambique; the United Nations in southern Africa after the cold war; and political violence in South Africa.

All that took place in two weeks, plus simulation sessions, a presentation of the IAUP/UN curricular project, and a climactic panel discussion at the United Nations featuring the ISACD "graduates" discussing "Confidence-building measures in Africa"! Given this extreme mix of personalities, institutions, countries, and topics, one might assume that the September 1994 Juniata seminar was a tumultuous affair, involving much conflict, emotion, cultural cleavages, and heated disagreements. On the contrary, an admirable bond quickly evolved between whites and blacks, with general agreement on most African problems and solutions.

The impact of this seminar was enormous. It inspired the participants to return home and disseminate what they had learned, quite apart from any requirement to do so. Thus, within a year, a Mozambique scholar had introduced an arms control module in his "*Introduction to nuclear physics*" course; a South African scholar had taught a new course on "*Disarmament and global arms contracts in the nuclear age*"; and the participant from Zimbabwe had not only developed a new course in "*Military technology and arms control*", but had changed the emphasis of a prior course from "*War Fighting*" to "*Peace & Conflict Management*". The commendable results at Evelyn Hone College in Zambia and Potchefstroom University in South Africa have already been described. Out of seven non-medical Commission host professors in Africa, five are graduates of the September 1994 seminar.

As the UNESCO preamble urges, the IAUP/UN Commission on Disarmament Education seeks to educate for peace, so that today's students, in Africa and elsewhere, will not need to fight tomorrow's wars.

Annex I

IAUP/UN Commission on Disarmament Education

Overview of "curricular replication" efforts, as at November 1995 (prepared by Leland Miles)

36 Partner universities[a]	16 Mentors (senior scholars)
21 Countries[b]	49 Host professors (overseas)
42 Recent/current/ scheduled courses[c]	260 Students
60 Estimated courses by fall 1996[d]	1800 Students
68 Estimated courses by fall 1997[e]	2000 Students

[a] One of these universities (University of the Valley of Mexico) heads an 11-member "federation". Two others are also consortia, namely the FLACSO consortium in Chile (4 members), and the Evelyn Hone public college consortium in Zambia (16 members).

[b] Argentina, Cameroon, Chile, China, Croatia, Egypt, Guatemala, Israel, Japan, Kenya, Mexico, Nigeria, Norway, Panama, Peru, Philippines, El Salvador, South Africa, Tanzania, Thailand, and Zambia.

[c] Four of these "courses" are in fact diploma or degree programs.

[d] Most of this increase results from the phasing in by January 1996 of a diploma programme at the remainder of the

16-member Zambia public college system. The lead college, Evelyn Hone, initiated the process in September 1995.

[e] This estimate assumes that at least eight schools will probably have courses running before or by fall 1997, e.g., Siam U. (Thailand), U. Nairobi (Kenya), Muhimibili U. (Tanzania), Southeast U. (China), Kanda U. (Japan), U. Ibadan (Nigeria), International Relations Institute (Cameroon), plus new institutional partners in Norway, Israel, Egypt, and Croatia.

Annex II

Sample Module

Nuclear Weapons: Environmental Consequences of Nuclear War

Overview

This module reviews the potential climatic and environmental consequences of a nuclear war, including the impact of atmospheric soot and dust, depletion of stratospheric ozone, radioactive fallout, and chemical pollution. It explores climatic effects that might persist for days or years, and ecological effects that might last decades more. The consequences of these stresses for organized agriculture and aquatic and terrestrial plant and animal life are estimated. The environmental consequences of nuclear weapons production, testing, storage and disassembly are covered in Module VI. Prepared for IAUP/UN Commission by Victor Sidel and colleagues.

Objectives

After completing this module, students should be able to:

1. Describe basic atmospheric processes occurring under normal condition.
2. Describe possible climatic changes due to injected particulate matter.
3. Describe the possible subsequent impact on living organisms, including human beings.
4. Describe the basic sources of uncertainty in estimating these effects.

Topic outline

I. Normal atmospheric processes
   A. Solar and infrared radiation: climate, seasons
   B. Atmospheric transport: winds, weather, climate zones

II. Nuclear war scenarios: principal considerations
   A. Total yield of the warhead(s)
   B. Targets (counterforce/countervalue, etc.)
   C. Height of explosions
   D. Season at onset of nuclear war
   E. Fuel loading—estimating the amount and character of the materials that would be ignited and injected.
   F. Other atmospheric injections—dust, nitrogen oxide
   G. Uncertainties

III. Physical and atmospheric consequences of a nuclear war
   A. Atmospheric models
      1. One-dimensional vs. three-dimensional models
      2. Interactive vs. non-interactive models
   B. Sources, properties and evolution of atmospheric injections
      1. Soot: origin, height of injection, microphysical processes, optical properties, resultant attenuation and evolution
      2. Dust: origin, height of injection, microphysical processes, optical properties, resultant attenuation and evolution
      3. Mechanisms of prompt and delays scavenging/removal
   C. Meteorological and climatic effects
      1. Results and extrapolations from general circulation models with interactive soot and dust

a. Meteorological and climatic effects—temperature, light attenuation, precipitation changes
b. Regional variations in effect
c. Observations of natural perturbations—volcanos, forest fires, duststorm

D. Ozone depletion
1. Impact of fireball nitrogen oxides on stratospheric ozone
2. Impact of soot heating and modifying transport and chemistry
3. Ultraviolet light (UV–B) dose assessments

E. Chemical pollutants
1. Polycyclic organic compounds, CO, hydrocarbons
2. Acidic precipitation
3. Industrial toxins

F. Radioactivity

IV. Agricultural and ecological effects of environmental perturbations
A. Agricultural effects
1. Regional differences—northern temperate vs. sub-tropical
2. Acute vs. chronic effects—duration of food stores
3. Single crop analysis—wheat, barley, rice
4. Impact on Southern Hemisphere

B. Vulnerability of natural ecosystems
1. Temperate terrestrial
2. Estuarial
3. Marine
4. Fresh water aquatic

5. Tropical
6. Arid

V. Uncertainty
   A. Sources
      1. The nuclear war scenarios
      2. The atmospheric models
   B. Data base
      1. Interface between field studies and models
      2. Applicability of data from volcanos, fires, dust storms
   C. Implication of uncertainty

Readings

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Solomon F. and Marston R; eds. *The Medical Implications of Nuclear War* (Part 1). Washington, DC: Institute of Medicine of the National Academy of Sciences, National Academy Press, 1986.
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Turco R.P., *et. al.* "Nuclear winter: Global consequences of multiple nuclear explosions." *Science* 222:1283-1292, 1983.

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World Health Organization. Effects of Nuclear War on Health and Health Services. Second Edition. Geneva: World Health Organization, 1987 (Annexes 2 and 7).

Discussion Topics

1. What effects do the long-term climatic and ecological consequences of nuclear war have on the possibility of surviving such a war?

2. What are the policy implications of long-term climatic and ecological effects of nuclear war? For deterrence? For considerations of arms control and disarmament? For deciding how much emphasis should be placed on non-proliferation?

3. Following a nuclear war, what foods would be available?

4. How should medical and other scientific conclusions about long-term ecological effects of nuclear war be translated into political action? What are the appropriate roles of physicians and other scientists in the political process?

5. Now that the cold war is over, how concerned should we be about the use of nuclear weapons? How should those concerns, if any, be translated into policy prescriptions?

Reference Material

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Sagan C. "Nuclear war and climatic catastrophe: Some policy indications." *Foreign Affairs.* Winter 1983/84: 257–92.

SCOPE Report. *Environmental Consequences of Nuclear War.* Chichester, UK: John Wiley & Sons, 1986.

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Annex III

Sample Module

The Economics of Arms Control (only pages 1-4 of the syllabus are reproduced below)

Prepared by the Undergraduate Prototype Committee, IAUP/UN Commission on Arms Control Education. Steven L. Spiegel, Chair.

Overview and Objectives

This course examines the economic aspects of arms control. This course will present the impetus behind the proliferation of arms. The relationship between arms control and proliferation is one in which the desire for arms control measures must be balanced with the economic impact of selling weapons. Thus, the economic incentives for the arms trade will also be discussed. Finally, the limitations and restrictions of converting defense industry to civilian industry will be addressed.

This syllabus is designed to assist in teaching a module on this subject designed for a three week course, two classes a week, organized in the following way:

Course outline

I. The economics of defense
   - A. National security and economic conditions
   - B. Post–cold war economic conditions
   - C. The economics of arms control in developing countries

II. Proliferation
   - A. Incentives for proliferation
   - B. Politics of proliferation

C. Economics of proliferation

III. Arms Trade and Transfer

A. Introduction

B. Economics of the arms trade

C. The arms trade after the cold war

D. Case studies

1. China
2. European Union
3. Russia
4. United States

IV. Defense Conversion

Syllabus

I. The economics of defense

This section presents the relationship between national security and economic stability. Nations must balance the need for security with the need for social programs. The end of the cold war has changed the landscape of international relations and thus the relationship between national security needs and social needs. In addition, the economic conditions in developing countries create special circumstances within which these countries must balance security and social needs.

A. National security and economic conditions

Reading

Samuels, Richard J. "Reinventing security: Japan since Meiji". Vernon, Raymond and Ethan B. Kapstein (eds.), *Defence and Dependence in a Global Economy*. Washington, D.C.: Congressional Quarterly, Inc., 1992.

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Gertcher, Frank L. and William J. Weida (eds.). *Beyond Deterrence: The Political Economy of Nuclear Weapons.* Boulder: Westview Press, 1990. Chapters 8, 12, and 16.

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Dumas, Lloyd J. "National security, non-contributive activity and macroeconomic analysis: theoretical, empirical and methodological issues" in Bischak, Gregory A.

(ed.), *Towards a Peace Economy in the United States: Essays on Military Industry, Disarmament and Economic Conversion.* London: MacMillan, 1991.

B. Post–cold war economic conditions

Readings

Renner Michael. "Budgeting for disarmament: the costs of war and peace". Worldwatch Institute: Worldwatch Paper 122, November 1994.

Klein, Lawrence R., Fu-chen Lo, and Warwick J. McKibbin (eds.). *Arms Reduction: Economic Implications of the Post Cold War Era.* Tokyo, Japan: United Nations University Press, 1995.

Payne, James E. and Anandi P. Sahu (eds.). *Defense Spending and Economic Growth.* Boulder: Westview Press, 1993.

C. The economics of arms control in developing countries

Readings

Adams, F. Gerard, Jere R. Behrman and Michael Boldin. "Defense Spending and Economic Growth in the LDCs: The Cross-Section Perspective" in Adams, F. Gerard (ed), *The Macroeconomic Dimensions of Arms Reduction.* Boulder: Westview Press, 1992.

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Fontanel, Jacques. "Effects for developing countries of the east-west disarmament process" in Sur, Serge, *Disarmament Agreements and Negotiations: The Economic Dimension.* Dartmouth: UNIDIR, 1991.

Adams, F. Gerard, Roberto S. Mariano, and Innwon Park. "Defense expenditures and economic growth in the Philippines: a macrosimulation analysis" in Adams, F. Gerard (ed), *The Macroeconomic Dimensions of Arms Reduction.* Boulder: Westview Press, 1992.

Study Questions

1. How does concern about the economic condition affect world leaders' decisions on arms control issues?

2. How does the end of the cold war affect the relationship between economic conditions and national security?

3. How are the conditions in developing countries with respect to defense issues different than those of developed countries?

II. Proliferation

This section presents the issues relating to the proliferation of weapons. Proliferation occurs when States that did not formerly possess certain weapons acquire them. The reasons behind a nation's decision to acquire weapons will be addressed. In addition, the political issues within countries that choose to sell or distribute weapons will be explored. Finally, the economic incentives of weapons proliferation will be discussed.

A. Incentives for Proliferation

Readings

Zimmerman, Peter D. "Proliferation: Bronze Medal Technology is Enough". *Orbis.* Winter 1994, 67–82.

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Documentation Relating to Disarmament and International Security

Pelindaba Text of the African Nuclear-Weapon-Free Zone Treaty*

Addis Ababa, 21–23 June 1995

The Parties to this Treaty,

Guided by the Declaration on the Denuclearization of Africa, adopted by the Assembly of Heads of State and Government of the Organization of African Unity (hereinafter referred to as OAU) at its first ordinary session, held at Cairo from 17 to 21 July 1964 (AHG/Res.11(I)), in which they solemnly declared their readiness to undertake, through an international agreement to be concluded under United Nations auspices, not to manufacture or acquire control of nuclear weapons,

Guided also, by the resolutions of the fifty-fourth and fifty-sixth ordinary sessions of the Council of Ministers of OAU, held at Abuja from 27 May to 1 June 1991 and at Dakar from 22 to 28 June 1992 respectively (CM/Res.1342 (LIV) and CM/Res.1395 (LVI)), which affirmed that the evolution of the international situation was conducive to the implementation of the Cairo Declaration, as well as the relevant provisions of the 1986 OAU Declaration on Security, Disarmament and Development,

*Only the preamble, articles 1 to 22, and the map are reproduced here from document A/50/426 of 13 September 1995. See that document for the text of Annexes I–IV and Protocols I to III.

Recalling United Nations General Assembly resolution 3472 B (XXX) of 11 December 1975, in which it considered nuclear-weapon-free zones one of the most effective means for preventing the proliferation, both horizontal and vertical, of nuclear weapons,

Convinced of the need to take all steps in achieving the ultimate goal of a world entirely free of nuclear weapons, as well as of the obligations of all States to contribute to this end,

Convinced also that the African nuclear-weapon-free zone will constitute an important step towards strengthening the non-proliferation regime, promoting cooperation in the peaceful uses of nuclear energy, promoting general and complete disarmament and enhancing regional and international peace and security.

Aware that regional disarmament measures contribute to global disarmament efforts,

Believing that the African nuclear-weapon-free zone will protect African States against possible nuclear attacks on their territories,

Noting with satisfaction existing NWFZs and recognising that the establishment of other NWFZs, especially in the Middle East, would enhance the security of States Parties to the African NWFZ,

Reaffirming the importance of the Treaty on the Non-Proliferation of Nuclear Weapons (hereinafter referred to as the NPT) and the need for the implementation of all its provisions,

Desirous of taking advantage of article IV of the NPT, which recognizes the inalienable right of all States Parties to develop research on, production and use of nuclear energy for peaceful purposes without discrimination and to facilitate the fullest possible exchange of equipment, materials and scientific and technological information for such purposes,

Determined to promote regional cooperation for the development and practical application of nuclear energy for peaceful purposes in the interest of sustainable social and economic development of the Africa continent,

Determined to keep Africa free of environmental pollution by radioactive wastes and other radioactive matter,

Welcoming the cooperation of all States and governmental and non-governmental organizations for the attainment of these objectives,

Have decided by this treaty to establish the African NWFZ and hereby agree as follows:

Article 1

Definition/Usage of terms

For the purpose of this Treaty and its Protocols:

(*a*) "African nuclear-weapon-free zone" means the territory of the continent of Africa, islands States members of OAU and all islands considered by the Organization of African Unity in its resolutions to be part of Africa;

(*b*) "Territory" means the land territory, internal waters, territorial seas and archipelagic waters and the airspace above them as well as the sea bed and subsoil beneath;

(*c*) "Nuclear explosive device" means any nuclear weapon or other explosive device capable of releasing nuclear energy, irrespective of the purpose for which it could be used. The term includes such a weapon or device in unassembled and partly assembled forms, but does not include the means of transport or delivery of such a weapon or device if separable from and not an indivisible part of it;

(*d*) "Stationing" means implantation, emplacement, transport on land or inland waters, stockpiling, storage, installation and deployment;

(*e*) "Nuclear installation" means a nuclear-power reactor, a nuclear research reactor, a critical facility, a conversion plant, a fabrication plant, a reprocessing plant, an isotope separation plant, a separate storage installation and any other installation or location in or at which fresh or irradiated nuclear material or significant quantities of radioactive materials are present.

(*f*) "Nuclear material" means any source material or special fissionable material as defined in Article XX of the Statute of the International Atomic Energy Agency (IAEA) and as amended from time to time by the IAEA.

Article 2

Application of the Treaty

1. Except where otherwise specified, this Treaty and its Protocols shall apply to the territory within the African nuclear-weapon-free zone, as illustrated in the map in annex I.

2. Nothing in this Treaty shall prejudice or in any way affect the rights, or the exercise of the rights, of any State under international law with regards to freedom of the seas.

Article 3

Renunciation of nuclear explosive devices

Each Party undertakes:

(*a*) Not to conduct research on, develop, manufacture, stockpile or otherwise acquire, possess or have control over any nuclear explosive device by any means anywhere;

(*b*) Not to seek or receive any assistance in the research on, development, manufacture, stockpiling or acquisition, or possession of any nuclear explosive device;

(*c*) Not to take any action to assist or encourage the research on, development, manufacture, stockpiling or acquisition, or possession of any nuclear explosive device.

Article 4

Prevention of stationing of nuclear explosive devices

1. Each Party undertakes to prohibit, in its territory, the stationing of any nuclear explosive device.

2. Without prejudice to the purposes and objectives of the treaty, each party in the exercise of its sovereign rights remains free to decide for itself whether to allow visits by foreign ships and aircraft to its ports and airfields, transit of its airspace by foreign aircraft, and navigation by foreign ships in its territorial sea or archipelagic waters in a manner not covered by the rights of innocent passage, archipelagic sea lane passage or transit passage of straits.

Article 5

Prohibition of testing of nuclear explosive devices

Each Party undertakes:

(*a*) Not to test any nuclear explosive device;

(*b*) To prohibit in its territory the testing of any nuclear explosive device;

(*c*) Not to assist or encourage the testing of any nuclear explosive device by any State anywhere.

Article 6

Declaration, dismantling, destruction or conversion of nuclear explosive devices and the facilities for their manufacture

Each Party undertakes:

(*a*) To declare any capability for the manufacture of nuclear explosive devices;

(*b*) To dismantle and destroy any nuclear explosive device that it has manufactured prior to the coming into force of this Treaty;

(*c*) To destroy facilities for the manufacture of nuclear explosive devices or, where possible, to convert them to peaceful uses;

(*d*) To permit the International Atomic Energy Agency (hereinafter referred to as IAEA) and the Commission established in article 12 to verify the processes of dismantling and destruction of the nuclear explosive devices, as well as the destruction or conversion of the facilities for their production.

Article 7

Prohibition of dumping of radioactive wastes

Each Party undertakes:

(*a*) To effectively implement or to use as guidelines the measures contained in the Bamako Convention on the Ban of the Import into Africa and Control of Transboundary Movement and Management of Hazardous Wastes within Africa in so far as it is relevant to radioactive waste;

(*b*) Not to take any action to assist or encourage the dumping of radioactive wastes and other radioactive matter anywhere within the African nuclear-weapon-free zone.

Article 8

Peaceful nuclear activities

1. Nothing in this Treaty shall be interpreted as to prevent the use of nuclear science and technology for peaceful purposes.

2. As part of their efforts to strengthen their security, stability and development, the Parties undertake to promote individually and collectively the use of nuclear science and technology for economic and social development. To this end they undertake to establish and strengthen mechanisms for cooperation at the bilateral, subregional and regional levels.

3. Parties are encouraged to make use of the programme of assistance available in IAEA and, in this connection, to strengthen cooperation under the African Regional Cooperation Agreement for Research, Training and Development Related to Nuclear Science and Technology (hereinafter referred to as AFRA).

Article 9

Verification of Peaceful Uses

Each Party undertakes:

(*a*) To conduct all activities for the peaceful use of nuclear energy under strict non-proliferation measures to provide assurance of exclusively peaceful uses;

(*b*) To conclude a comprehensive safeguards agreement with IAEA for the purpose of verifying compliance with the undertakings in subparagraph (*a*) of this article;

(*c*) Not to provide source or special fissionable material, or equipment or material especially designed or prepared for the processing, use or production of special fissionable material for peaceful purposes to any non-nuclear-weapon State unless subject to a comprehensive safeguards agreement concluded with IAEA.

Article 10

Physical protection of nuclear materials and facilities

Each Party undertakes to maintain the highest standards of security and effective physical protection of nuclear materials, facilities and equipment to prevent theft or unauthorized use and handling. To that end each Party, *inter alia*, undertakes to apply measures of physical protection equivalent to those provided for in the Convention on Physical Protection of Nuclear Material and in recommendations and guidelines developed by IAEA for that purpose.

Article 11

Prohibition of armed attack on nuclear installations

Each Party undertakes not to take, or assist, or encourage any action aimed at an armed attack by conventional or other means against nuclear installations in the African nuclear-weapon-free zone.

Article 12

Mechanism for compliance

1. For the purpose of ensuring compliance with their undertakings under this Treaty, the Parties agree to establish the African Commission on Nuclear Energy (hereafter referred to as the Commission) as set out in annex III.

2. The Commission shall be responsible *inter alia* for:

(*a*) Collating the reports and the exchange of information as provided for in article 13;

(*b*) Arranging consultations as provided for in annex IV, as well as convening conferences of Parties on the concurrence of simple majority of State Parties on any matter arising from the implementation of the Treaty;

(*c*) Reviewing the application to peaceful nuclear activities of safeguards by IAEA as elaborated in annex II;

(*d*) Bringing into effect the complaints procedure elaborated in annex IV;

(*e*) Encouraging regional and sub-regional programmes for cooperation in the peaceful uses of nuclear science and technology;

(*f*) Promoting international cooperation with extra-zonal States for the peaceful uses of nuclear science and technology.

3. The Commission shall meet in ordinary session once a year, and may meet in extraordinary session as may be required by the complaints and settlement of disputes procedure in annex IV.

Article 13

Report and exchanges of information

1. Each Party shall submit an annual report to the Commission on its nuclear activities as well as other matters relating to the Treaty, in accordance with the format for reporting to be developed by the Commission.

2. Each Party shall promptly report to the Commission any significant event affecting the implementation of the Treaty.

3. The Commission shall request the IAEA to provide it with an annual report on the activities of AFRA.

Article 14

Conference of Parties

1. A Conference of all Parties to the Treaty shall be convened by the Depositary as soon as possible after the entry into force of the Treaty to, *inter alia*, elect members of the Commission and determine its headquarters. Further conferences of State Parties shall be held as necessary and at least every two years, and convened in accordance with paragraph 2 (*b*) of article 12.

2. The Conference of all Parties to the Treaty shall adopt the Commission's budget and a scale of assessment to be paid by the State Parties.

Article 15

Interpretation of the Treaty

Any dispute arising out of the interpretation of the Treaty shall be settled by negotiation, by recourse to the Commission or another

procedure agreed to by the Parties, which may include recourse to an arbitral panel or to the International Court of Justice.

Article 16

Reservations

This Treaty shall not be subject to reservations.

Article 17

Duration

This Treaty shall be of unlimited duration and shall remain in force indefinitely.

Article 18

Signature, ratification and entry into force

1. This Treaty shall be open for signature by any State in the African nuclear-weapon-free zone. It shall be subject to ratification.

2. It shall enter into force on the date of deposit of the twenty-eighth instrument of ratification.

3. For a signatory that ratifies this Treaty after the date of the deposit of the twenty-eighth instrument of ratification, it shall enter into force for that signatory on the date of deposit of its instrument of ratification.

Article 19

Amendments

1. Any amendments to the Treaty proposed by a Party shall be submitted to the Commission, which shall circulate it to all Parties.

2. Decision on the adoption of such an amendment shall be taken by a two-thirds majority of the Parties either through written communication to the Commission or through a conference of Parties convened upon the concurrence of a simple majority.

3. An amendment so adopted shall enter into force for all parties after receipt by the Depositary of the instrument of ratification by the majority of Parties.

Article 20

Withdrawal

1. Each Party shall, in exercising its national sovereignty, have the right to withdraw from this Treaty if it decides that extraordinary events, related to the subject-matter of this Treaty, have jeopardized its supreme interests.

2. Withdrawal shall be effected by a Party giving notice, which includes a statement of the extraordinary events it regards as having jeopardized its supreme interest, twelve months in advance to the Depositary. The Depositary shall circulate such notice to all other parties.

Article 21

Depositary functions

1. This Treaty, of which the Arabic, English, French and Portuguese texts are equally authentic, shall be deposited with the Secretary-General of OAU, who is hereby designated as Depositary of the Treaty.

2. The Depositary shall:

(*a*) Receive instruments of ratification;

(*b*) Register this Treaty and its Protocols pursuant to Article 102 of the Charter of the United Nations;

(*c*) Transmit certified copies of the Treaty and its Protocols to all States in the African nuclear-weapon-free zone and to all States eligible to become party to the Protocols to the Treaty, and shall notify them of signatures and ratification of the Treaty and its Protocols.

Article 22

Status of the annexes

The annexes form an integral part of this Treaty. Any reference to this Treaty includes the annexes.

In witness whereof the undersigned, being duly authorized by their Governments, have signed this Treaty.

Done at _____

Annex I - Map of the African Nuclear-Weapon-Free Zone

BOOKS RECEIVED

The following short summaries cover books received by the Centre for Disarmament Affairs that are of particular interest in the field of arms reduction and disarmament. Books relating to broader topics of international peace and security are listed after the summaries.

Materials received are maintained in a permanent collection in the Centre for Disarmament Affairs Reference Library for the use of diplomats, staff members of the United Nations, participants in the Disarmament Fellowship Programme, students, and members of research institutes and non-governmental organizations interested in the field of arms control, disarmament and international peace and security.

The Centre for Disarmament Affairs wishes to thank the publishers, institutions and organizations for their continued collaboration with its Library.

The Arms Export Challenge: Cooperative Approaches to Export Management and Defense Conversion. Kevin P. O'Prey. Washington, D.C., The Brookings Institution, 1995. 56 p. (Brookings Occasional Papers)

This Brookings Institute occasional paper emanated from the International Arms Sales Conference held by the Brookings Institution and the Institute for USA and Canada Studies in Queenstown, Maryland, 3–5 February 1994. Examining the dilemma faced by the United States and Russian arms industries in the post–cold war environment, the author, building upon conference papers and discussions, questions whether these two arms giants will forge a new cooperative approach in arms exports and security matters, or resume their cold war rivalry.

The Arms Trade and Europe. Paul Cornish. London, The Royal Institute of International Affairs, 1995. 116 p. (Chatham House Papers)

Since the end of the cold war arms rivalry, the Governments and the institutions of the European Union, which export one-third

of the world total in arms transfers, have attempted to regulate the international arms market. In this book, the author outlines the involvement of the EU in various aspects of the international arms trade, and assesses the potential for a common EU system or code by which to manage that involement.

The New Agenda for Global Security: Cooperating for Peace and Beyond. Stephanie Lawson, ed. NSW, Australia, Allen & Unwin, in association with the Department of International Relations, Australian National University, 1995. 217 p.

This collection of ten essays, most of which were delivered at a seminar held at the Australian National University in Canberra in July 1994, gives critical scrutiny to Australian Foreign Minister Gareth Evans' *Cooperating for Peace: The Global Agenda for the 1990's and Beyond*. Issues such as security, the third world, arms control, and the United Nations role in the world are addressed, concluding with a rejoinder by Gareth Evans.

Proliferation in All Its Aspects Post–1995: The Verification Challenge and Response. J. Marshall Beier and Steven Mataija, eds. Toronto, Canada, Centre for International and Strategic Studies, York University, 1995. 148 p. (Symposium Proceedings)

During the 1995 Twelfth Annual NACD (non-proliferation, arms control and disarmament) Verification Symposium, numerous papers were presented on verification problems and dilemmas in the context of, *inter alia*, fissile material cut-off, CTBT, land-mines, the Chemical Weapons Convention, and the CFE. This compilation includes works by numerous ambassadors, government officials, international organization affiliates, and academics in the verification field, and closes with an NPT review conference summary.

Regional Security and Non-proliferation. Seiitsu Tachibana, ed. Mosbach, Germany, International Peace Research Association (IPRA)/Defense and Disarmament Study Group Paper 7, 1996. 135 p. (AFES–PRESS Report No. 57)

As the title suggests, this study group paper, which is a product of the Commission on Defence and Disarmament of the International Peace Research Association, is divided into two

sections. The regional security section is comprised of three essays dealing with comprehensive security, Western assistance for Central Eastern Europe, and the supply of light weapons relative to human rights and refugees. The non-proliferation section covers issues such as control and cooperation under the NPT regime, non-proliferation in south Asia, and the case for a nuclear weapon free world.

Russian Defence Conversion and Arms Exportation. Yevgeni Kogan. Frankfurt, Germany, Peace Research Institute Frankfurt (PRIF), 1995 31 p. (PRIF Reports No.41)

Although it has been nearly five years since the demise of the Soviet Union, aftershocks are still being felt in economic and political reforms, wreaking further havoc on the Russian arms industry. In a case study of the Russian aircraft industry, the author of this report furnishes several answers including restructuring corporations, establishing joint-ventures, and developing new products. In addition, a section on new approaches and methods of Russian arms export stategy follows.

Technology and the Proliferation of Nuclear Weapons. Richard Kokoski. New York, Oxford University Press, in association with the Stockholm International Peace Research Institute (SIPRI), 1995. 351 p.

This text provides a comprehensive explanation of various technologies of proliferation concern, IAEA safeguards, and dual-use export controls. Specific descriptions of uranium enrichment and plutonium production and extraction technologies are provided, as well as a detailed account of the Iraqi nuclear program. The author summarizes how these issues relate to non-proliferation as a whole, gives recommendations for ameliorating existing non-proliferation systems, and suggests new means to prevent the spread of nuclear weapons.

United Divided: The European at the NPT Extension Conference. David Fischer and Harald Müller. Frankfurt, Germany, Peace Research Institute Frankfurt (PRIF), 1995. 49 p. (PRIF Reports No.40)

This report examines the role of the European Union during the 1995 NPT Review and Extension Conference. In particular, the authors explore questions relating to the EU's contribution in the successful outcome of the Treaty, whether the EU

achieved the optimal results, and furthermore how its action at the NPT Conference reflects the EU's ambition in shaping world security matters.

The UN Register of Conventional Arms: Examining the Third Report. Malcolm Chalmers and Owen Greene. West Yorkshire, United Kingdom, Department of Peace Studies, University of Bradford, 1995. 28 p. Bradford Arms Register Studies: Working Paper)

This study evaluates the status of the United Nations Register of Conventional Arms after its third year. The authors provide a compilation of data while outlining problems and prospects for the Register in the future.

The Second Gulf War and the CBW Threat: Proceedings of the 3rd Annual Conference on Chemical Warfare. Jean Pascal Zanders, ed. Brussel, Belgium, Centrum voor Polemologie, Vrije Universiteit Brussel, 1995. 196 p.

Recent and Forthcoming Publications from the Centre for Disarmament Affairs, Department of Public Information and UNIDIR

Centre for Disarmament Affairs

Books

The United Nations Disarmament Yearbook
Volume 20: 1995 (forthcoming)
The *Yearbook* contains a review of the main developments and negotiations in the field of disarmament taking place each year, together with a brief history of major issues.

The United Nations and Disarmament since 1945 (forthcoming)
The booklet focuses on recent developments in arms regulation and disarmament. It contains a chronology of events from 1990 to 1995 and a brief description of all disarmament treaties concluded since 1945.

Department of Public Information

Chemical Weapons Convention: Questions and Answers DPI/1426/Rev.1 (Brochure up-date in English and French).

United Nations Institute for Disarmament Research (UNIDIR)

Research Reports

Building Confidence in Outer Space Activities: Space Activities: CSBMs and Earth-to-Space Monitoring, by Pericles Gasparini Alves (ed.), 1995, 357p., published for UNIDIR by Dartmouth (Aldershot). (Forthcoming)

UNIDIR Newsletter

Volume 8, No. 30/95, June 1995-September 1995, *Information Technology and International Security*

Volume 8, No. 31/95, October 1995-December 1995, *Nuclear Disarmament: What is Next?*

About United Nations Publications

United Nations sales publications (with a United Nations Sales Number) can be obtained from bookstores and distributors throughout the world or by writing to the United Nations Sales Section in New York or Geneva as follows:

- United Nations Sales Section,
  Room DC2-853, Dept 421,
  New York, New York, 10017, USA
  Tel: (212) 963-8302;
  (800) 253-9646
  Fax: (212) 963-3489.
- United Nations Sales Section,
  Palais des Nations,
  CH-1211, Geneva 10, Switzerland
  Tel.: (41 22) 917.26.12;
  Fax: (41 22) 917.00.27.

Non-sales publications may be obtained by writing to:

- The Centre for Disarmament Affairs,
  Room S-3151, United Nations,
  New York, New York 10017, USA.
- UNIDIR
  Palais des Nations
  CH-1211 Geneva 10, Switzerland

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The Seventh Regional Disarmament Meeting in the Asia-Pacific Region held at Kathmandu, Nepal, 13–15 February 1995

Programme of the Meeting

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The Growing Significance of Regional Approaches to Disarmament and International Security
Evgeniy Gorkovskiy

Regional Disarmament Should Complement Global Efforts
Madhav Kumar Nepal

Sustaining the Momentum Towards the Complete Elimination of Nuclear Weapons
Yoshihiro Kiyoura

An Appeal for the Total Abolition of Nuclear Weapons
Hitoshi Motoshima

Closing session:

Disarmament Proposals and Agreements: Regional and Global Approaches
Brahma Chellaney,
Moderator of Working Group I

Regional Issues and Confidence-building
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Concluding Statement
Tsutomu Ishiguri
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Documentation relating to Disarmament and International Security

Decision on Strengthening the Review Process for the Treaty on the Non-Proliferation of Nuclear Weapons

Decision on Principles and Objectives for Nuclear Non-Proliferation and Disarmament

Decision on the Extension of the Treaty on the Non-Proliferation of Nuclear Weapons

Resolution on the Middle East adopted by the 1995 NPT Review and Extension Conference

Security Council Resolution 984 (1995) on Security Assurances

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The Cornerstone of the International Non-Proliferation System
Gérard Errera (on behalf of the European Union)

The Case for Indefinite and Unconditional Extension
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China and the NPT
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Why the Non-Aligned States May Not Support an Indefinite Extension
Mohamed I. Shaker

The Venezuelan Extension Proposal
Adolfo R. Taylhardat

Comprehensive Nuclear Test Ban Treaty: Negotiations in the Conference on Disarmament, 1994

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Statement of the Chinese Government on Security Assurance to Kazakhstan

Acronyms

ACDA	Arms Control and Disarmament Agency (United States)
AFCONE	African Commission on Nuclear Energy
AFRA	African Regional Cooperative Agreement for Research, Training and Development Related to Nuclear Science and Tecnology
ANC	African National Congress
DPRK	Democratic People's Republic of Korea
CDA, or UNCDA	United Nations Centre for Disarmament Affairs
COMESA	Common Market for Eastern and Southern Africa
ECCAS	Economic Community of Central African States
ECOMOG	ECOWAS Monitoring Group
ECOWAS	Economic Community of West African States
FAO	Food and Agriculture Organization
FIS	Front Islamique de Salut (Islamic Salvation Front)
HEU	highly-enriched uranium
IAEA	International Atomic Energy Agency
IAUP	International Association of University Presidents
ISACD	International Seminar on Arms Control and Disarmament, sponsored by the IAUP/UN Commission on Disarmament Education
NPT	Treaty on the Non-Proliferation of Nuclear Weapons
NNWS	non-nuclear-weapon State
NWFZ	nuclear-weapon-free zone
NWS	nuclear-weapon State
NPFL	National Patriotic Front of Liberia

OAU	Organization of African Unity
OSCE	Organization for Security and Cooperation in Europe
PAIGC	Partido Africano da Independência de Guiné e Cabo Verde
PTA	Preferential Trade Agreement of East and Southern Africa
SACU	Southern African Customs Union
SADC	Southern African Development Community
SADCC	Southern African Development Coordination Conference
UNIDIR	United Nations Institute for Disarmament Research
UNITA	National Union for the Total Independence of Angola (translation of acronym from Portuguese)
WHO	World Health Organization

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